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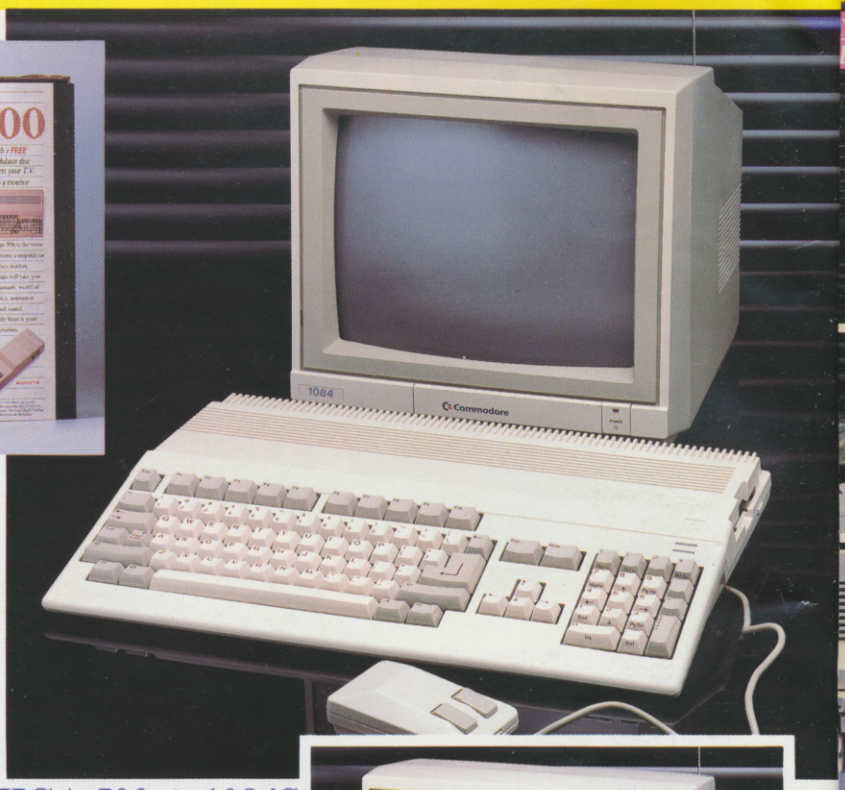

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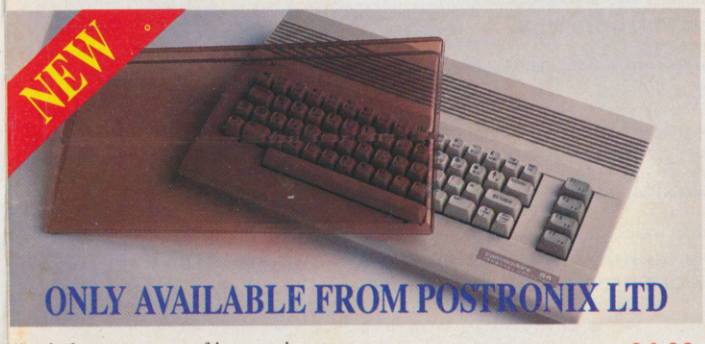

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Cover artwork courtesy of Discovery Software International Inc.

CCI View

Dear CCI Reader,

When the Chinese Communist leader Mao Tse Tsung was asked how important was the French Revolution in 1789, he replied, nearly 200 years later, that it was still to early to tell. We are now, though it might not always seem so, right at the very beginning of the Computer Revolution. What its importance to our lives will be is, as Mao would say, far too early to tell. And it doesn't become any easier to predict because of the amazing accelerating speed at which this Revolution is taking place even on the home computer front.

The original Sinclair ZX's possessed 1 or 2K of memory. Now it is being suggested that the next generation of Amigas will leap from 512K up to 2 or 4 Megabytes! Steve Jobs, the founder of Apple, has his NeXT computer based virtually entirely for memory storage on CD, taking it and probably the whole coming generation of micros up into the memory stratosphere of 600 Megabytes plus.

Such huge storage will bring D.V.I. – digital video interactive – the ability to manipulate TV quality images as easily as we do with sprites in a C64 game. With memory like that we will manage highly-complex information such as the Hypercard concept now running on the Macintosh which allows the creation of databases that work 'associatively' i.e. very much more like the way we think than the present inflexible database structures demanded by most computers. It may also bring neural networks that can really mirror the way our minds work. And in graphics, it can enable us to create the stunning "paintbox" images for our home screens.

But will it really be of importance to us, or will it just be a toy, an amusement, something except for the child or the mad-keen, at the edge of our lives?

Have you noticed how today almost every TV programme starts with a title sequence of brilliantly created computer graphics – as though because the technology exists so they've got to use it? Then comes the much less impressive reality of the programme – human beings moving around, talking, acting in ordinary ways. The programmes are, of course, limited by the human-size subjects and viewers and material that, within context, could have been understood by any rational being since history began.

When the programme ends we have another few moments of computerised graphics, just to remind us that the technological wizardry is still there, like a brightly coloured book jacket, inside which is bound an everyday black and white text.

Technology, it seems, has yet to penetrate deeply into the content of our lives, so far it appears merely to have affected the presentation, especially on TV. Perhaps that is because we are what we are – humans more influenced by emotions like pain, love, fear, pleasure and anger than by cold intellect. If we were as logical as Startrek's Mr Spock we would be able to predict more accurately where the Computer Revolution will lead and how important it will be to us. But we are not. All we know is that almost all the predictions that have been made as to the results of technological change have proven very wrong indeed – pesticides manufactured to help grow more food poison our land, nuclear power hailed as a cheap power source not only costs more but spreads cancerous destruction, even the domestic aerosol, apparently an innocently useful packaging, turns out to tear holes in the ozone layer and endanger our planet's existence.

Will the Computer Revolution bring benefits or woes, lead to disasters or marvellous improvement in the quality of our lives? Either, neither or both? As Mao Tse Tsung would say enigmatically, it is still far too early to tell.

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Published by Croftward Limited
Finsbury Business Centre
40 Bowling Green Lane
London EC1R ONE
Distributed by Comag
Tavistock Road, West Drayton
Middx UB7 7QE
Distributed by Comag
Tavistock Road, West Drayton
Middx UB7 7QE
Typesetting by
Afterimage, London
Printed by Chase Printers Group

Commodore Computing International — an Independent magazine for Commodore computer users — is not connected in any way with Commodore Business Machines UK Ltd. It is published 12 times per year by Croftward Limited. The publishers do not accept liability for any incorrect statements of errors contained in material from independent sources or authors which may be reproduced from time to time.

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Battletech

In this action packed RPG, you are Jason Youngblood, a warrior cadet who must preserve his planet, his honour and his life.

The game includes "The Arena", a gladiatorial module you can play again and again to increase your skills and accumulate supplies.

Battletech features the richness of plot and the depth of character that you have come to expect from Infocom games. It features the largest RPG universe ever created, with over four million locations. You will see animated games sequences in the distinctive style of Japanese "monga" comics.

Battletech is available on MS-DOS. Price: £29.99

Coming soon on C64 and Amiga. Contact: Activision (UK) Ltd, Blake House, Manor Farm Road, Reading, Berks RG2 0JN Tel: 0734 311666.

Zork Zero

Zork Zero is the interactive fiction presequel to the Zork Trilogy, an early entertainment software hit. In Zork Zero, an unpredictable jester challenges you with puzzles, paradoxes and plenty of fun as you seek out objects ranging from the curious to the sublime.

The game integrates graphics into the game play with visual puzzles, illustrated maps and a Zorkian encyclopedia. It also includes Infocom's most requested features; a frendlier parser for easier typed-in commands, on-screen hints, mapping, optional mouse interface and sound.

It will soon be available for MS-DOS and Amiga. Contact: Activision (UK) Ltd, Blake House, Manor Farm Road, Reading, Berks RG2 0JN Tel: 0734 311666.

School Fun

School is going to be more fun for youngsters thanks to a new package from Database Educational Software. Database tells us, "That's official".

Fun School 2 - a sequel to the bestselling Fun School on the BBC Micro and Amstrad CPC - has been designed by teachers to combine entertainment with a wide range of early skills.

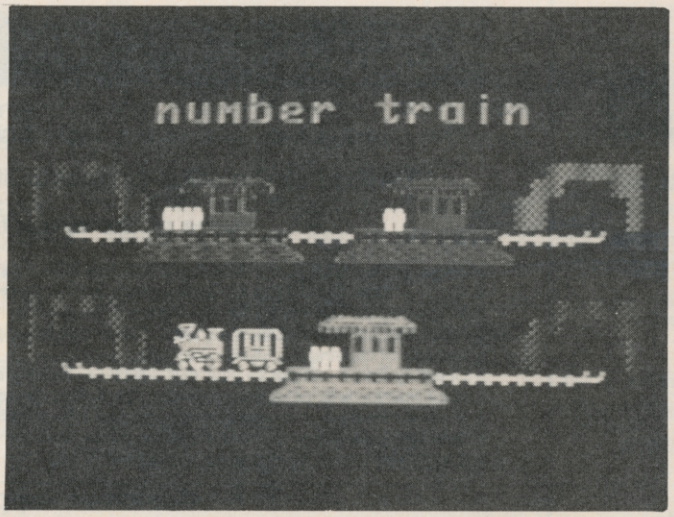
It is being offered in three age-defined sections - for the under sixes, six to eight year olds, and the over eights.

A suite of eight programs is available for the youngsters age group. From counting Teddies through spelling and guessing games, children are encouraged to master the likes of numeracy, literacy and concentration.

For the six to eight year olds, programs are devised to provide various levels of difficulty - from words and numbers to coordination and logical thinking.

Older children - falling into the eight and over group -face the challenge of an adventure game combined with a series of short puzzels. Seven of the programs are self contained but each of these has to be solved before the eighth title can be tackled.

Fun School 2 is initially available in 8-bit format for the Commodore 64, priced at £9.95 on cassette, £12.95 on disc. Versions for the Amiga and IBM PC and compatibles with CGA graphics will follow shortly.
Contact: Database Software, Europa House, Adlington Park, Adlington, Macclesfield, SK10 4NP Tel. 0625-878888



F-19 Stealth Fighter

HUNT VALLEY, MD – F-19 STEALTH FIGHTER, the revolutionary combat flight simulator released by Microprose Software in November for the IBM-PC and compatibles, sold over 100,000 copies worldwide in its first 60 days on the market, making it one of the most popular initial releases in Microprose history.

Microprose has already submitted F-19 STEALTH FIGHTER to the Software Publishers Associationxfor the SPA Gold Award to certify the sales achievement.

Last month, CCI gave the F-19 a roaring review. F-19 STEALTH FIGHTER puts players in the cockpit of the U.S. Air Force's highly classified radar-elusive jet. The game offers hundreds of carefully researched and reality-based combat scenarios in four authentically represented regions of the world. The areas of conflict cover Libya, the Persian Gulf, the North Cape of Scandinavia and Central Europe.

Price: £39.95. F-19 STEALTH FIGHTER supports the MCGA/VGA, EGA, CGA, Tandy, and Hercules monochrome graphics systems. It requires 384K RAM.

Contact: Microprose, 2, Market Place, Tetbury, Glos GL8 8DA. Tel: 0666 54326.

Dynamic Duo

Eerie 'phantom rooms', long dark corridors and the evil Grim Reaper are just some of the obstacles to thwart your progress in Firebird's latest – Dynamic Duo.

With your trusty feathered friend (your mate the duck!), enter the deadly 'Night House' and explore the secret rooms and spooky corridors in search of the Calculations Room.

To cause further problems the key to the Calculations Room is split into ten fragments scattered throughout the house. Collect all fragments and piece them together to locate the room.

And then life starts to get difficult!! (Firebird tell us). How do you distinguish between the Calculations Room and the 'phantom rooms' which suddenly appear on your map?? Do you stick together or would it be best to split up from your friend?? Only you can make these decisions, but remember, a bad decision could be fatal!

Dynamic Duo is a split screen strategy arcade game, for one or two players. The screen is divided into three horizontal sections: the top is the playing screen which shows the two characters together or just the main one in the case of a two player game; the middle section shows either the map or the duck (second player) if the characters split up and the third section contains the score plus the pieces of the key collected to date.
Dynamic Duo is available for the Commodore 64. Price: Commodore 64 (cassette) £9.99; Commodore 64 (disc) £12.99. Contact: Firebird Software, c/o British Telecomsoft, 81 Newgate Street, London EC1A 7AJ.

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Britain's brightest event for Commodore computer users is back! And there's more to see than ever before.

This show has three main themes covering some of the major uses to which Commodore machines are put. There are over 70 key companies who will be exhibiting their latest products, which means that just about everything that's new in the Commodore world will be on show!

Business

Many companies will be demonstrating their latest software and hardware, specially designed to release the full business potential of Commodore computers.

As well as products for the C64 and Amiga series, you'll be able to try out applications for the price-beating Commodore PC compatible micros.

And you'll also be able to attend seminars covering all aspects of using Commodore micros in your business.

Leisure

The C64 and Amiga computers are the most powerful 8 and 16 bit micros for producing fast-action arcade quality games. The range of new software on show will demonstrate how these machines' power is continually being stretched, producing faster and even more addictive games with superb graphics.

If you're a keen game player, you'll find there's so much on offer at the show you're guaranteed a real treat!

Education

Commodore micros are now used as educational tools all over the country. With the development of BBC Basic on the Amiga, and the advent of Desktop Video (combining TV pictures with text and graphics), the range of educational applications is endless.

At the show you'll see how the latest software packages are making real breakthroughs in the educational sector, and be able to try them out for yourself.

Special Events

As well as special events and presentations, you'll also be able to meet some of your favourite celebrities, and maybe get a chance to talk with them about how they use micros in their work.

So for a great day out, whether you want to see what the future holds for Commodore computers, to buy the latest software or to get advice on specific applications, the Commodore show is the place to go. And if you send in the coupon today, we'll knock £1 off the price of each ticket!

● ***For the first time we are offering a family ticket for just £11 allowing entry for two adults and two children – saving up to £7 off the usual entry price!***

How To Get There
By Underground: *Hammersmith (Piccadilly, Metropolitan & District).*
By Bus: *266, 714, 716, 290, 30, 72, 74, 74.*
Car parking facilities available at the Novotel.

Advanced ticket order

Commodore computer show

POST TO: ***Commodore Show Tickets, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.***

Please supply:

☐ Adult tickets at £4 (save £1) ..... £ _____
☐ Under 16s tickets at £2.50 (save £1) ..... £ _____
☐ Family ticket at £11 (save £7) ..... £ _____
Total £ _____

☐ Cheque payable to Database Exhibitions
☐ Please debit my Access/Visa card no:
Expiry date: ___/___

Signed .....

Admission at door: £5 (adults), £3.50 (under 16s)

Advance ticket orders must be received by Wednesday, May 24

Name .....
Address .....
.....
.....Postcode .....

PHONE ORDERS: Ring Show Hotline: 0625 879965
PRESTEL ORDERS: KEY *89, THEN 614568383
MICROLINK/TELECOM GOLD ORDERS: 72:MAG001
Please quote credit card number and full address

A639

...news ...news ...news ...news

Ghostbusters

The game based on the cartoon and comic series Real Ghostbusters.

Imagine that your city has been taken over by an army of ghouls and ghosties! Only you can save it from a grizly fate. You will have to work your way through each of the games twelve levels by zapping the ghosts and then collecting them with your electron beam. At the end of each level you will have to defeat a guardian ghost before you can find the key to the next level.

On your way you will meet all manner of gruesome characters. These include mad marauding monks, walking mummies as well as evil bird-like creatures with telescopic necks! You will have to make your way through a maze of grave yards and haunted swamps aided by your one ghost friend – the invincible "SLIMER". (We are hoping Sigourney Weaver shows up somewhere but rumour has it that she's monkeying around) Price: C64 (disk) £14.99, (cassette) £9.99; Amiga £24.99. Contact: Activision (UK) Ltd, Blake House, Manor Farm Road, Reading, Berks RG2 0JN. Tel: 0734 311666.

Grandslam Movie

Grandslam Entertainments has announced that it has tied up the rights to Arnold Schwarzenegger's blockbusting new movie – THE RUNNING MAN.

It is the year 2019 and Ben Richards, a State Policeman, has been sent on crowd control duty in his helicopter. When he receives the order to fire on unarmed demonstrators he knows he can no longer carry out his duties and decides to disobey. In defying his superiors, Richards has suddenly turned from law enforcer to law breaker.

In 2019 a game show exists. The competitors are innocent people, conveniently dubbed criminals for the sake of this horrifying show. Richards has been committed to the show and is sent on a chase through dungeons and caves pursued by sadistic villains, while a blood thirsty TV audience watch pictures of the contestants being chased and slain.

GRANDSLAM

SCHWARZENEGGER is Ben Richards, the hero. Ben Richards spends his time fending off attacks from Fireball, Dynamo, Buzzsaw and Subzero – a group of murdering creations who will stop at nothing to ensure they complete the task of termination. Richards needs your help to ensure that the blood curdling array of weaponary is not used on him. There is no help from anywhere, so it is down to you, as the audience cheer for your blood.

Achieve your goal and you could bring an end to the show and the death of innocent people.

RUNNING MAN will be a sideways scrolling game in five sections. Available on all main home computer formats: PC, Amiga, ST, Spectrum, Commodore and Amstrad. Details are currently being finalised.

Smile & Say 'Cheesecake'

We recently received this "news" release from Codemasters:

"The enclosed photograph shows Peter Williamson (L) and Gavin Raeburn (R). Two of the most talented computer games authors in Britain today." (We think that Peter is the one with her eyes shut. We wonder who the two guys in the middle are...).

SPACE PRODUCTS

SPACE, the Danish inventor of the swivelarm makes products to manage the data-monitor and keyboard in space saving and ergonomically correct ways.

New products include the SPACE MONITOR STAND II, a new designed product to meet the demand of working flexibility at a very competitive price.

SPACE I is the strongest swivelarm in the program, which loads up to 100 kgs. This means that even a complete PC - all included - can be placed on this model.

The low cost model SPACE 3 has been redesigned better to meet today's design in office furniture keeping its technical specifications.

Contact: SKANDINAVISK DATA-TILBEHOR Aps, LYKKESHOLMES ALLE 30A, DK-1902 FREDERIKSBERG C, Tel. + 45 1 24 05 01.

HP Laserjet Emulation Printer

London-based consumables and peripherals supplier, Consup, has introduced HP Laserjet emulation page printer at £1250. The 6 page-a-minute machine comes complete with two font cartridges to augment the 7 in-built fonts, and pushes the page printer firmly into the personal computer arena, said the company.

Called the Consup GQ3500, it gives users 30016300 dots per inch resolution printing onto various paper sizes including envelopes, compliment slips, A4 letter and legal. Paper feeding is via a 150-sheet input tray, or optional 250-sheet tray, with output face-up or face-down, controlled via a simple dial.

The GQ-3500 is capable of producing 3000 sheets per month, with an engine life of 180,000 pages. The printer also features separate toner, collector and drum cartridges, allowing users to replace individual units leading to maximum usage of all consumables.

Optional features include a 2Mb memory upgrade, RS232/RS422 serial interfaces, emulation of the Diablo 630 protocol, and 43 fonts on plug-in cartridges. Contact: Consup Ltd, Finck Street, Waterloo, London, Tel 01-928-3252.

Amiga Care

A support package for the Commodore Amiga range has been launched by Burocare Graphics Design.

AMIGA-CARE allows subscribers to buy blocks of support units which can then be traded in for services ranging from training to consultancy/system analysis.

Burocare is a UK company that has been involved in systems analysis, installations and support – as well as research and devlopment – since 1981.

The AMIGA-CARE package covers:

Training to meet specific requirements; telephone support for both software and hardware through a dedicated line to a team of experts; on-site support from engineers who gurantee to get any system up and running with a minimum of disruption; technical reports and software updates custom-written to meet a participating company's requirements, so ensuring a constant update source on changing technology; consultancy/system analysis offering specialist advice on what is required for future computerisation of companies; accidental damage and "all risk" insurance; and also a loss of data cover.

AMIGA-CARE involves buying support units in blocks of twenty, with prices starting at £100 per block. Bulk buying reduces this to £85 per block for companies acquiring 50 or more blocks.

Units are exchanged for services ranging from one unit per problem for telephone support through ten units per hour for on-site work, up to 80 units per day for consultancy.

Insurance for both hardware and software and for loss of data can also be paid for using AMIGA-CARE units.

"Support units can be purchased as and when required and when a company gets close to the end of their units, we notify them and additional blocks can be pruchased", says Steve Laitman. In addition, a monthly statement of use is sent.

"The package is aimed at any AMIGA-DOS based user, including networked systems. It covers any AMIGA and all off the shelf software – and is offered to large and small companies alike."

"We believe this makes AMIGA-CARE the ultimate support package".

For further information please contact Steve Litman on 01-907 3636.

Competition Mishap

In the February issue of CCI, the questions to the Slayer Player competition and the Dragon's Lair competition were inadvertantly switched. Some of you may think that the competitions are already too difficult (or too easy!) but we assure you that no ulterior motives were involved in this mishap. Obviously, we were so excitied to be able to give away a fantastic personal stereo cassette player from Hewson AND two terrific ½ Meg expansions for A500 owners from Entertainment International... that we simply mixed them up. (Of course, those gremlins that occassionally eat articles and programs are also suspect).

But as we are still accepting the entries to both competitions until April 15th, you can still search through your Feb. issue of CCI (Slayer Player comp., p.71, and Dragon's Lair comp., p.33) to sort out the questions. We apologise for any inconvenience, and look forward to receiving your entries.

Clue Books

For those of you who like a hint or two (or three) for your RPG, Electronic Arts has announced clue books for the following products: Bards Tale I, Bards Tale II, Bards Tale III, Deathlord, Wasteland, The Mars Saga and Sentinel Worlds. The books are available from its customer services at £5.00 each.

Bards Tale I is available on the C64, Amiga and the PC. Bards Tale II is available on the C64, Amiga and PC. Bards Tale III is available on the C64. Deathlord is available on the C64. Wasteland is available on the C64 and PC. The Mars Saga is available on the C64. Sentinel Worlds I is available on the PC.

Spitting Image Winner

Lee Patterson of Lancashire was CCI's prizewinner of the Domark Spitting Image Contest. He and his family were given a guided tour of the Limehouse Studio Workshops, and went home with prizes of poster, book, game and Spitting Image slippers.

Alternative Hard Disk Drives

Burocare Graphics Design is now distributing the Bernoulli Box II, a half height drive that uses removable 5.25 in 20Mb disk cartridges.

The system features: an average 40 millisecond seek time; infinite storage capacity - simply by increasing the number of cartridges used; and security – the cartridges can be removed from the drive and safely stored elsewhere.

In a direct price comparison with hard disk drives, Burocare tells us that its drive is slightly more expensive for the basic hardware, but that each 20Mb of storage costs only £65 plus VAT.

It can be used in environments with mass data storage requirements such as graphics, animation and CAD.

Each cartridge can be split between AMIGA-DOS or MS-DOS format (when used with the XT Bridgeboard) or a mixture of both.

The Bernoulli Box is supplied with a SCSI interface – fully auto-configuring and compatible with all Amiga Dos commands – which fits into the first expansion slot of the Amiga 2000 or on the DMA port of the Amiga 500 and 1000.

When using Kickstart 1.3, the interface can be upgraded to allow Auto Booting on the Bernulli.

As the drive head floats at a height of 10 millionths of an inch above the disk surface, this "soft" contact results in minimal disk wear and substantially reduces the chance of a head crash.

Prices: the drive units come in three models – single external (£1,295 plus VAT); dual external (£1,895 plus VAT) for the entire Amiga range; and, internal for the Amiga 2000 only (£1,065 plus VAT).

All the external units are supplied with integral fan and power supply to ensure maximum reliability, along with SCSI interface cable and relevant software.

Contact: Burocare Graphics Design, 211 Kenton Road, Harrow, Middlesex HA3 0HD. Tel 01-907 3636.

Samurai Adventures

Microprose Software Inc. has announced the development of a yet unnamed action/role-playing adventure game for IBM-PC/Tandy/compatibles set in 16th century Japan.

Players will begin in the sandals of a minor Samurai, or Japanese warrior, trying to ascend he social ladder – through swordsmanship, statesmanship and sometimes treachery – to the position of daimyo, or warlord of his clan. The ambitious Samurai must survive the personal attacks, military maneuvers and political machinations of his many adversaries – each of whom operates independently with motivations and desires of his own. The player is constantly busy fortifying his own power base, protecting family and heirs, and preparing for the inevitable battles that result from unceasing conflict and intrigue.

According to game designer Lawrence Schick, creator of Microprose's popular AIR-BORNE RANGER, it is this level of intrigue which makes the game different from other games in the Samurai genre. "Sometimes you will initiate contact with rivals, sometimes they will initiate with you, according to their objectives."

The game will run on all 384K or larger IBM-PC and compatibles, and will support the CGA, EGA, Tandy, and Hercules graphics modes. The use of a joystick will be optional, and the game will be hard disk installable, with a key disk copy-protection routine.

The suggested retail price has not been established.

Oxford Dictionary Of Quotations Sent Free

A special edition of the Oxford Dictionary of Quotations is being presented free with every ten-box order for IBM 3.5in and 5.25in diskettes from Action Computer Supplies. This edition, published in association with IBM, is the first substantial revision of the Dictionary since it was first published in 1941, and has an index compiled by computer.

Action stocks the full range of IBM diskettes for next day delivery at substantially below recommended retail prices. Examples include 5.25in, DS, DD diskettes for the IBM PC and compatibles at £12.25 per box of ten, reduced to £9.75 when included in orders totalling over £100.00; and 3.5in diskettes for the IBM PS/2 (models 50, 60 and 80), at £43.90 per box of ten, reduced to £37.30 for £100+ orders. All IBM diskettes are guaranteed for five years.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA0 1WL. Tel: 0800 333 333.

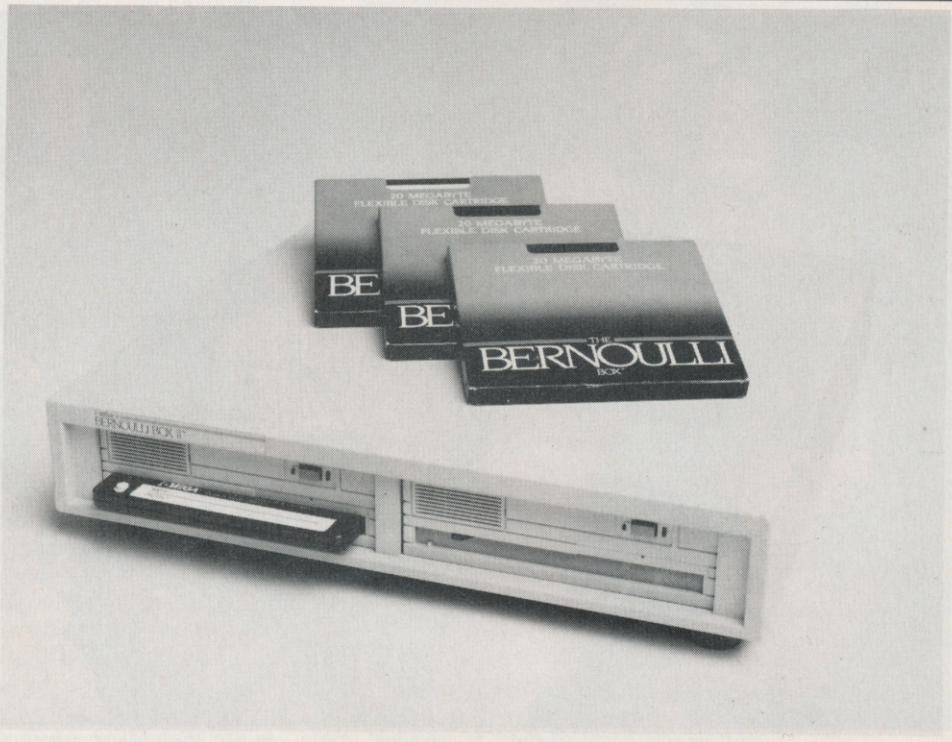
Eliminator

Become THE ELIMINATOR. From the mind of John Phillips, author of Nebulus, comes ELIMINATOR, a game of 3D graphics, action and state-of-the-art scrolling for the Commodore 64.

Hammer down the highway, spin to the ceiling, flip across the floor in this electrifying, death-defying, blood-arising action screamer (Hewson like adjectives a bit, don't they ?).

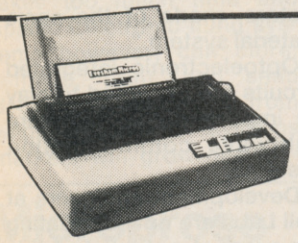
Hang on to your helmet as you spiral through the Galaxy to become THE ELIMINATOR.

Contact: Hewson House, 56b Milton Park, Milton, Abingdon, Oxon OX14 4RX Tel: (0235) 832939.



Evesham Micros

All prices include VAT/delivery



star LC-10
Best-selling CBM ready printer

Now the established market leader in this price category, the LC-10 incorporates many advanced features for such a low price. Its facilities, not normally available in this price range, include 4 NLQ fonts (with 96 combinations) and paper parking (use single sheets without removing tractor paper). Good value 7-colour version also available, which will also accept standard LC10 black ribbons. LC10 available either in '64/128 ready form or as parallel version for Amiga users. Please state your computer type when ordering.

Only £199.00

Colour version also available,

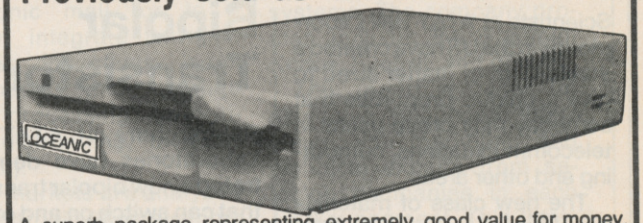
Only £249.00

Prices include two extra black ribbons free of charge

OCEANIC OC-118

NOW WITH NEW 'JIFFY DOS' !

Previously sold as 'Excelerator Plus'



A superb package representing extremely good value for money, combining the Oceanic OC-118 disk drive (previously sold as 'Excelerator+') and the sophisticated GEOS system. Said by COMPUTE's Gazette to have "dramatic improvements over the 1541 in quality and reliability", the drive is a stylish and attractive compact unit featuring a direct drive motor and its own external power supply. GEOS brings the power of a graphic interface and integrated disk turbo to your '64 and includes geoPAINT, a graphic workshop, geoWRITE, a WYSIWIG word processor and many Desk Accessories. Many more extensions available - see below.

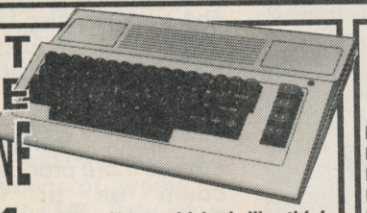
Oceanic OC-118 & GEOS £129.95

Oceanic OC-118 & GEOS plus *Freeze Machine* £149.95

GEOS Applications

GEOS 64	£24.95	GEOPUBLISH	£32.95
GEOFILE	£24.95	GEOPROGRAMMER	£32.95
GEOCALC	£24.95	GEOS 128	£32.95
DESKPACK+ 64/128	£21.95	GEOWRITE WORKSHOP 128	£32.95
GEOWRITE WORKSHOP	£24.95	GEOCALC 128	£32.95
FONTPACK+ 64/128	£16.95	GEOFILE 128	£32.95
GEOSPELL	£16.95		

GET THE SLIMLINE '64



Your '64 could look like this!

Why put up with an old fashioned looking computer? Fit this smart and modern looking new case to your '64 - it will look and feel like you are using a brand new computer. This high quality injection moulded case is simple to fit and gives a lower keyboard height. Reject the old image and order one *now*.

Only £19.95

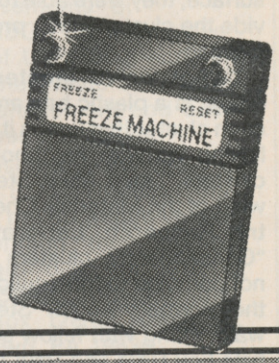
FREEZE MACHINE for speed, power and ease of use

- ❑ Unstoppable Freeze
- ❑ Fast save routines
- ❑ Ultra-efficient file compactor
- ❑ Lazer and Turbo fastloads
- ❑ Integral reset button
- ❑ Tape turbo facilities
- ❑ 12 second disk format
- ❑ Selective file copier
- ❑ Selectaload
- ❑ many more useful features!

Only £28.95

For speed, power and ease of use it has to be Freeze Machine, probably the most effective backup cartridge on the market! Incorporating two types of fast load routines you can SAVE and reLOAD your favourite games in as little as 10 seconds and no more than 18. Numerous invaluable facilities available, including a built-in reset button. Utility Disc V3.0 also available to complement usage of the cartridge. It allows complete transfer to disk of many tape-based programs that load extra parts, eg. Gunship, Last Ninja, World Games, Supercycle. A very useful add-on.

Utility disc only £7.95



Selected Products

DOUBLER '64 ..... Makes perfect tape backups every time. Consists of hardware and software. Requires access to two data recorders. Very easy to use, only **£12.95**

ICONTROLLER ..... Natty little keyboard mounted cursor controller, ideal for icon-driven applications like GEOS **£11.95**

DATA RECORDER ..... CBM compatible, same as C2N/1531 but cheaper and includes pause control button **£24.95**

DOLPHIN DOS ..... Parallel operating system for use with 64/128 and 1541 disk drive. Fantastic speed increase on LOAD and SAVE whilst maintaining CBM disk format. Many extra DOS & BASIC commands, includes built-in monitor and Centronics printer driver **£69.95**

DISC DISECTOR V5.0 ..... Disk backup/utility package, very powerful **£19.95**

1541 PHYSICAL EXAM ..... Consists of digital alignment disk and drive fault diagnosis software to check and correct 1541 head alignment. Includes quiet drive stops **£39.95**

1541 QUIET DRIVE STOPS ..... Silences 'knocking' noise with 1541 drives **£4.95**

AZIMATE 3000 KIT ..... Kit to check and adjust data recorder head alignment **£6.95**

AMIGA 500

SPECIAL OFFER AMIGA PACK

Contains Amiga 500, TV modulator, Mouse, Joystick, Mouse Mat, 5 disks of public domain software, 'Photon Paint' and 7 top games ('Karate Kid II', 'Goldrunner', 'Grid Start', 'Demolition', 'XR 35', 'Atax' and 'Las Vegas'). Total retail value of extras supplied is £270.45.

All this for only £399.00

Philips CM8833 (Colour monitor suitable for Amiga 500) **£229.00**

Philips CM8852 monitor as above, but higher resolution **£299.00**

Cumana external 5.25" floppy drive 40/80 track 'Transformer' compatible . **£159.95**

Disks & Boxes

25 bulk packed 5.25" DS/DD disks with sleeves, write protect tabs and labels. Good quality and fully guaranteed, only **£13.95**

25 disks + box. Disks as above plus 50 capacity lockable storage box, only **£22.95**

25 disks + 100 box. As previous offer but with 100 capacity locking box **£24.95**

50 capacity box. Lockable storage unit for 5.25" disks with smoked perspex top **£10.95**

100 capacity box. Larger version **£13.95**

How to order from Evesham Micros

Phone us with your ACCESS or VISA card details on : ☎ 0386-765500

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✆ 0386-765500
fax 0386-765354
telex 333294

Also at: **1762 Pershore Rd., Cotteridge, Birmingham B30 3BH Tel: 021 458 4564**

New Realm of Matter

Scientists at AT&T Bell Laboratories in the US have created a stable form of matter sized to give it unique properties that someday may prove useful in telecommunications, computing and other areas.

The new class of materials consists of semiconducting "clusters" of 100 to 10,000 atoms organised in a regular, or crystalline, pattern. This size range, well below the several billion atoms in the smallest microelectronic device but larger than most molecules, is relatively unexplored in science. Here, forces normally seen only at the molecular or atomic level begin to prevail, affecting how the material interacts with electrons and photons.

Although clusters are under study worldwide, the researchers at AT&T Bell Laboratories are the first to have invented molecular methods to stabilise and isolate them in pure form,. By growing a cluster inside a minuscule water droplet approximately 20 angstroms wide, then attaching organic molecules to the material's surface, they were able to provide the cluster with a protective cap.

"What we've created, in effect, is a plastic bag around each cluster that keeps it from linking up with neighbouring clusters," said Mike Steigerwald of the Materials Chemistry Research Laboratory. "Consequently, clusters cannot combine to form solids, as they normally would." Steigerwald, along with fellow scientists Lou Brus and Paul Alivasatos, have been collaborating on cluster research at AT&T Bell Laboratories.

The result of the capping process is a powdery material whose electronic, optical and chemical properties – as well as its colour – vary with the size of the clusters that compose it. By adjusting the size of the clusters, scientists "tune" them to meet specific requirements. This tunability, as well as other properties of the clusters, make them attractive candidates for many electronic and chemical uses. For example, the optical properties of clusters may someday be put to use in photonic switches, although years of development work would be required first.

Clusters also are leading to a better understanding of just how small microelectronic devices can be. As succeeding generations of these devices grow smaller and smaller, their atomic properties play an increasingly important role in their performance. As a result, micro-electronic components eventually could become so small that their performance is altered. Understanding these effects is vital to making full use of microelectronic technology.

Clusters made to date by the AT&T Bell Laboratories scientists are semiconductors composed of "II-VI" materials, so called because they're from the second and sixth columns of the periodic table of the elements. The second column contains zinc and cadmium, among other elements, while the sixth includes sulfur and selenium.

World's Fastest Bipolar Transistor

Researchers at AT&T Bell Laboratories have demonstrated a new bipolar transistor that can switch on and off 140 billion times per second. That's twelve times faster than the commercial bipolar transistors used in today's supercomputers.

Bipolar transistors, the workhorses of ultra-high-speed computers and communications systems, are typically made of silicon and can operate at frequencies up to 12 gigahertz (billion operations per second). The new AT&T Bell Laboratories transistors, invented by scientists Young-Kai Chen, A.F.J. Levi, Richard N. Nottenburg, and Morton Panish, are made of indium phosphide and gallium indium arsenide. They operate at 140 gigahertz.

The researchers used a method called gas-source molecular beam epitaxy (GSMBE), invented by Panish in 1980, to create their transistor. "Using GSMBE is like spraying atoms onto a surface," said Panish, who grew the complex multilayered semiconductor crystals for the device. "It allows us to control with extraordinary precision the thicknesses and electrical properties of the layers."

"We utilize high-speed electrons to relay the signal in the transistor," said Chen. "The electrons operate like a skier who acquires extremely high speed, as if he were going down a cliff. By properly engineering the ski path for the downhill electrons with GSMBE technology, we make it possible for the transistor to switch a signal in a very short time."

The electrons move across the device in approximately 0.5 picoseconds (one half of a trillionth of a second). That's about five times faster than electrons in silicon bipolar transistors. The reason is that they move quasi-ballistically (hitting only one or two atoms in the semiconductor crystal). In silicon transistors, the electrons are slowed down by many collisions. The devices open up a new range of operation for bipolar transistors as well as a new frontier of applications. The new device is expected eventually to have much higher speeds.

"In light of its ultra-high speed and low power consumption, this transistor has the potential to be useful in analog and digital integrated circuits and in ultra-high-speed electronics for gigabit lightwave communication systems," said Nottenburg. "Someday it might also be integrated on the same chip with present lightwave devices, such as lasers and detectors, made of the same material system."

Optoelectronic integrated circuits are expected to play an important role in future lightwave communication systems.

Development engineers at Bell Labs are now evaluating the product potential of this device.

The inventors are presenting a paper about the new transistor at the International Electron Device Meeting December 12 in San Francisco. The meeting is sponsored by the Institute of Electrical and Electronics Engineers (IEEE). The work will also be described in the IEEE journal Electron Device Letters in January.

Software Guide

The Good Software Guide has been for users of IBM and compatible personal computers by Absolute Research. The company claims that there are over 1.5 million personal computer (PC) users in the UK, and that number is increasing by over 250,000 each year.

Richard Jones, the editor, chairman of Absolute Research. "As a result of our computer research activities we have been increasigly asked to advise on PC software products. There are so many options that the user cannot possibly consider them all. We now believe that there are over 20,000 such products available. A Guide to 'good' ones, based on known criteria has been long overdue," he said.

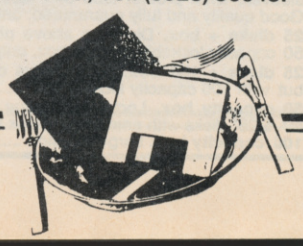
The 400-page Guide covers all areas, from accounts to word processing. There are 165 detailed product reviews, and specific references to dozens more products which could be of interest. Thousands of users have responded to questionnaires covering these products.

The book reports that the 'average' PC user spends around £300 on software packages and will inevitably also spend at least three times that amount, in time or money, on learning to use them.

Price: (paperback) £19.95 (3-ring binder Professioinal Edition) £39.95.

The Professional Edition allows users to sign on to the "Update Service" for regular information on new packages, and new versions of packages already in The Guide. Both versions are available from bookshops, or by mail order from Absolute Research.

Contact: Absolute Research, Absolute House, Leavesden Road, Watford WD2 5EG, Tel: (0923) 56043.



Electronic Filing System Market Increases

Paper documents present a growing problem in many offices: filing and managing massive amounts of paper takes too much time and space. Electronic filing systems however, can store, retrieve, print, and send documents instantly from within a computer systems markets will grow dramatically in some segments, as shown in a new report: Electronic Filing Systems Markets, by Market Intelligence Research Company.

Documents are generated internally and externally to a given office. Internally generated documents are filed electronically as a matter of course. Externally generated documents, on the other hand, are usually filed as paper documents in the cabinets. Access is limited and time-consuming. An electronic filing system can scan huge volumes of documents, digitize the documents for electronic filing, store the documents in the computer system, access documents immediately from multiple workstations, send the documents via electronic mail, or to a printer, integrate text and graphic documents, index documents, and manage work processing (prioritizing, distributing, monitoring, etc).

The markets are analyzed for electronic filing systems in terms of components, applications, and computer systems. There are sections on strategies for success, industry trends, and company profiles. The report is unique in that the total electronic filing market is segmented by size and access of the application. Additional forecasts are given for mainframe/mid-range and micro computer/PC-based systems. The company profiles include 3M, Eastman Kodak, FileNet, and others.

This report is based on extensive telephone interviews with marketing and technical experts from selected companies in each market segment. This information has been verified by thorough study of all secondary sources available.

Contact, MIRC, Europe 55 rue Vandenhoven 1200 Brussels, Belgium Tel +32(2) 7622781.

Microprose Development Team

Paul Hibbard, Peter Moreland and Steve Perry have all joined Microprose as part of a major expansion of the software development side of the Tetbury-based company. All formerly with Telecomsoft, Paul, as Software Publisher, and Peter and Steve, as Development Managers, will be responsible for sourcing and developing a greater amount of product from within the UK. They join Tony Bickley who has headed the Microprose Development Team for the last fifteen months.

Pictured, clockwise, from top left: Peter Moreland, Steve Perry, Tony Bickley and Paul Hibbard.

Ultra DOS Upgrade

Free Spirit Software, Inc, has released the 1.3 version of Ultra DOS Utilities, a file management and hard drive backup utility for the Amiga.

The upgraded version of Ultra DOS is fully compatible with both AmigaDOS versions 1.2 and 1.3. In addition to supporting the enhancements of AmigaDOS 1.3, the new version of Ultra DOS contains many new features to make file management and backup faster and easier.

Registered owners of Ultra DOS Utilities may obtain the upgraded version by sending their original program disk and $10 to Free Spirit Software, Inc., P.O. Box 128,58 Noble St., Kutztown, PA 19530.

Designer Database

Software Visions Inc. has introduced its Designer Database series for the Amiga. The Designer Database series is a collection of many databases and macros, organised in a ready-to-use format, designed to work with Software Visions' Microfiche Filer and Microfiche Filer Plus database engines.

The first two disks in the Designer Database series, to be released on March 31, are the Home I and Business I disks. The Home I disk includes such classic applications as videotape, audio recording, stamp, and recipe catalogues, a home budget, a personal inventory, and more. The Business I disk includes a daily calender, mail merge (with macros), expense report, general ledger, a sophisticated invoicing/inventory application with macros for inventory processing and more.

Prices: $39 for Home I; $59 for Business I. Soon to follow will be Video/Graphics and Sound I, Home II, and Business II, Software Visions tell us.

Contact: Software Visions, P.O. Box 3319, Framingham, MA 01701. Tel: (508) 875-1238.

EA Games for the PC

Electronic Arts has announced the PC version of the Bard's Tale II: The Destiny Knight for the IBM PC compatibles. Designed by Interplay Productions, the Bard's Tale II is 50 per cent larger in code size and more challenging than its predecessors. It features an expanded dominion for exploration and adventure and incorporates advanced combat and magic systems, EA tells us.

Acting as distributors for the Strategic Studies Group, EA will release Halls of Montezuma and Decisive Battles of The American Civil War: Volume One for the IBM and PC compatibles. 1989 will see an increasing committment to this format as all existing SSG titles are converted to the PC. All three games are priced at £24.95 each.

PC-Office Workstation

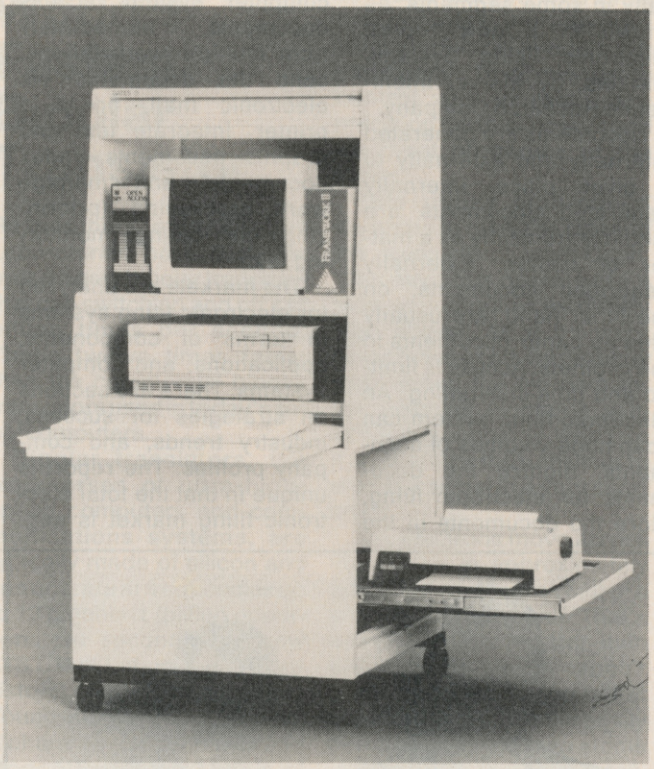
The new PC-Office Cabinet from Action Computer Supplies houses a complete PC system, and has roller shutters on each of its three sections allowing the whole system to be locked away when not in use.

It consists of a cabinet with separatesections for VDU, CPU and printer, and fitted with a sliding keyboard shelf and specially rigid sliding shelves for CPU and printer. The printer section is acoustically insulated, and can be turned to allow access from either side.

"This unit is invaluable where unauthorised access to the computer must be prevented" says Action sales manager Roger Bulkeley. "It is also extremely compact when 'shut down', which makes it particularly useful in offices where the system is not in constant use".

The PC-Office Cabinet is 660mm wide by 670mm deep, and is made in two versions: the complete unit, 1455mm high, costs £495.00; the smaller version, which does not have the closed section at the top for the VDU stands 995mm high and costs £359.99.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA0 1WL.



Freebies! Freebies!

While examing the capacious cupboard of CCI Tower we found some interesting treasure.

Because we are so fond of our loyal CCI readers, we are going to give away 40 free books to the first 40 letters we receive from CCI readers. *No catches-no kidding!* Choose either: "The Complete VIC ROM Disassembly" by CCI contributor Peter Gerrard and Kevin Berglin -or- "Sound Effects and Music on The Commodore 64" by William Turner and Alf Vella.

We have 20 copies of each book to give away. Just put your name on a postcard, indicating which book you would like, and we'll mail the first 40 entries we receive a free copy. Please indicate: if you do not get your choice, if you would like the other book instead (no phone calls please).

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Gunship

Microprose Software has announced that its popular and award-winning attack helicopter simulation GUNSHIP recently achieved platinum sales certification from the Software Publishers Association. The designation signifies United States sales of over 250,000 units.

Gunship becomes the third Microprose game to reach thaty prestigious plateau. The first two are the air combat simulation game F-15 Strike Eagle and the World War II submarine simulator Silent Service.

Designed by Arnold Hendrick and Andy Hollis, Gunship puts players at the controls of the world's finest attack helicopter, the U.S. Army's Ah-64A Apache. The Gunship arsenal boasts Hellfire and Sidewinder missiles, Folding Fin Aerial Rockets, and a 30mm cannon capable of firing 625 rounds per minute. To make thew game challenging for novices and conbat simulation experts, Gunship offers a variety of skill and reality levels, mission types, and specific mission objectives. Success is rewarded with commendations, medals and promotions charted in the player's career record.

Currently available for Commodore, IBM-PC / Tandy / compatibles, Gunship has seen impressive sales, Microprose tells us. It is the universal success of the game, says Microprose President Bill Stealey, which will continue to give Gunship a long shelf life.

An Amiga version of Gunship is expected in the first half of 1989, Stealey said.

Contact CCI!
We would be grateful if the following would contact us at CCI — they will hear something to their advantage: T. Ackland, M. Adams, E. Ake, K. Bais, S. Clarke, L. Cooke, J. F. Forester, L. Malpas, M. Demby, J. Menzies, M. H. Merchant, L. Neeves, A. Packer, W. Sellers, R. Stoate, R. Webster, J. Vitali.

Firezone

The story: with the break up of the Superpower blocks, colonial wars have ravaged the world. The development of powerful beam weapons and defensive energy shields have revolutionised ground warfare giving a new lease of life to the concept of Armoured Fighting Vehicle.

Propulsion systems have advanced beyond recognition. The development of the GRAV engine means tanks can skim across a battlefield at the speed of today's helicopter gunships.

Firezone simulates a new style of combat - it can be played as a solo game against a tough computer opponent or as a two player game. The player can control either of the two main protagonists - the European League or the Pacific Combine in any of the set scenarios. Victory is yours when the opposing forces are either wiped out from the map or forced into mass retreat. Also incorporated is a scenarios editor program allowing the player to design their own battles.

Firezone is a phased game and features the latest Artificial Intelligence techniques, a scrolling map, a variety of unit types and a wide range of scenarios, Mirrorsoft tells us.

Firezone is available on the Amiga and PC. Price: £24.99. Contact: Mirrorsoft, Headway House, 66-73 Shoe Lane, London EC4P 4AB. Tel 01-377 4645.

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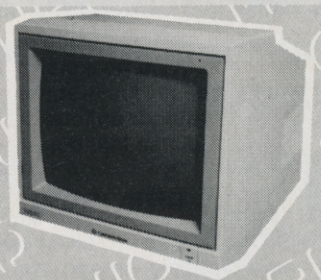

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"YOUR COM NOW AL

The biggest hit as far as the communications media are concerned is not games or word-processors but a highly newsworthy additive to the computer scene – the Virus. In the first of a two-part series, Nancy Picard reports on the development of viruses especially on micros such as the Amiga and IBM PC compatibles – including the latest strains to hit both machines.

In what is known as Hell's Kitchen, New York City, a small independent film-maker churns out films such as "Kill The Nazi Surf Punks", and other cinema classics. Among the half-eaten mad scientists and grotesque deaths, usually some kind of moral element manages to emerge from all of this cinematic slime.

The producers have concentrated mainly on the revenge of chemical toxins on mankind, indecent animal obsessions, and token chain-saw gymnastics. Of course, when the latest movie is released, no pictures of gala openings and celluloid stars grace the front page of the Sun...but the films have their own cult status, and continue to survive (even if most of the major characters do not).

I am considering writing to this film-maker with a story idea I am positive would make millions. It has all of the elements – a diabolical plot, mad scientists, parasites, worms, frightening technology, bombs, Trojan horses, and last but certainly not least moral corruption.

The title? Simple. VIRUS!

I can see it now – a pool of startling, white light shining down on a poor little Amiga, and a virus expert (also dressed in white – preferably a lab coat of some kind) rubbing his (or her) chin..."Hmmm," the doctor slowly murmurs. You tremble. The violins start their frenzied playing. "Hmm, it looks to me as if you have a bad case of...." (you guessed it). "We will have to operate." GASP!

But is it all as dramatic as this? You have no doubt heard or read of computer viruses by now. Some of you have perhaps even been struck by "the mega-mighty SCA" or other strains, and some of you are wondering if you will be next. How many will admit that viruses seem just too awful and monstrous to contemplate? After all, they eat files, don't they?

As with any type of infection, educating the infectable is one of the major ways to fight back; first, then, a few definitions. A virus is no more than a piece of code usually hidden in innocent-looking software. Hence the term, 'trojan.' When you place this software in your machine, through downloading from a BBS or inserting a disk, the virus "infection" occurs. And it is not just Public Domain or 'shareware' programs that carry viruses.

"The code is written in such a way as to remain resident in your computer and to replicate itself, whatever damage it performs initially is multiplied."

Several commercial programs have been carriers.

What distinguishes a virus from any other type of program is its ability to infect.

The code is written in such a way as to remain resident in your computer and to replicate itself, whatever damage it performs initially is multiplied; everything depends on how many programs come in contact with the code.

Viruses, Trojan Horses, Parasites, Worms and Bombs have long existed in one form or another, and they are present in many different strains and in the places they choose to infect (disks, machines, or both).

According to the Independent Commodore User Group newsletter, the type of code found in Trojan Horses is usually destructive or tries to steal data. Bombs, another term for such code, are generally simply destructive. Parasites will attach themselves to files, and Worms will go straight for your machine, finding a nice resting place (perhaps inside the clock).

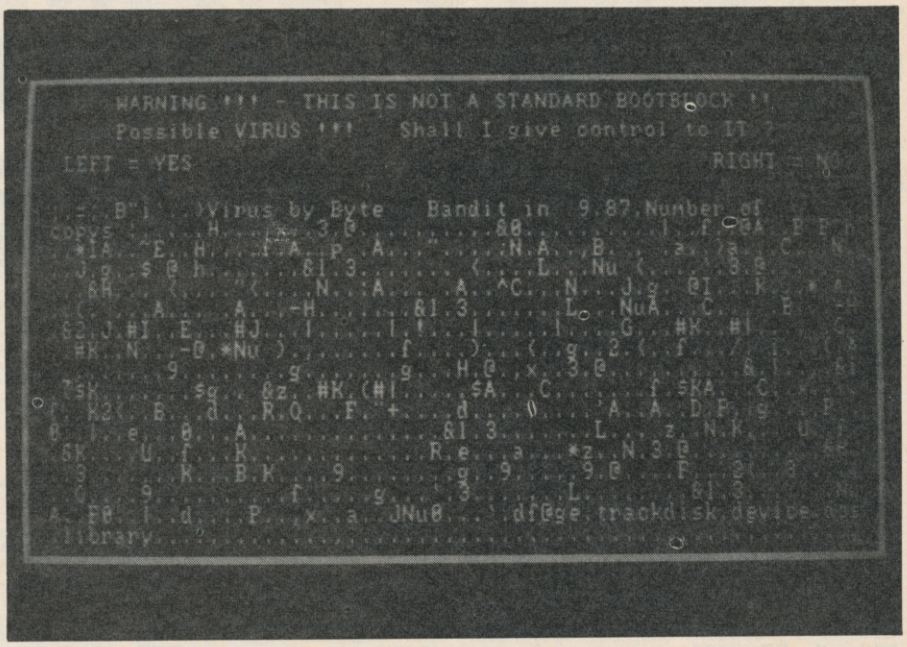
The computer virus, on the other hand, is usually written to be a nuisance to the unsuspecting computer user. But the virus may in fact cause great damage, not only by corrupting data, but also in the time it takes to "cure" infected machines.

How widespread is the problem? Virus stories started appearing in the major daily newspapers about a year ago, and since then the whole concept has developed its own urban folklore. In an article by the US-based weekly magazine TIME, Ken Thompson (programmer of Unix) is given credit for explaining the concept of viruses at the Association for Computing Machinery's prestigious award banquet. Soon after, viruses began appearing in university computer systems. In 1984, Dr Fred Cohen of the University of Cinncinati (then of the University of Southern Cali-

fornia) was one of the first academicians to treat the subject with great seriousness. In his report on viruses, Cohen was mainly concerned with the threat of viruses to data security.

"Viruses have infected such institutions as IBM and the National Aeronautics and Space Administration (NASA)."

Data security has been the focus of major corporations and the subject of major headlines. In the United States, the news media often reports about the Pakistani virus that reared its ugly head at the Providence Journal-Bulletin in Rhode Island. This particular outbreak destroyed one reporter's six months of work, and infected more than 100,000 IBM disks across the U.S. In Fort Worth, Texas, an embittered programmer infected



OMPUTER IS ALIVE!"

his former employer's computer system and deleted more than 168,000 records of sales commissions. He now faces criminal charges and fines.

Viruses have infected such institutions as IBM and the National Aeronautics and Space Administration. In October 1988, a virus crashed approximately 6,000 workstations on the US research Unix network Internet, which ties together several hundred different networks.

But the US is not the only hard-hit place. A similar situation occured in Japan in November 1988. A virus appeared on the NEC's PC Van network, where it transmitted the virus-writer's BBS identification number and password to a mailbox so that he could gain free connect time and order goods.

There have also been reports of a Christmas tree virus, which began in West Germany and spread through the European Academic Research Network. From there, it travelled worldwide, shutting down those systems that could not stand the strain.

In the United Kingdom, there seem to be fewer accounts of great viral damage. Dr Alan Soloman, chairman of the UK IBM PC user group, reported casualties after January, Friday 13th, when a virus struck at least two major institutions. Soloman has so far encountered no firms that have lost data as a result of any virus attack, but cautions that the problem may be growing.

British Olivetti, a firm of London Barristers, and Translation Express, a London translation agency, have reported outbreaks of a PC virus. Reflex Magnetics Ltd., a disk duplication service located in London, had to contend with viral infection in November 1987, before anyone at the company knew viruses existed. Telecomsoft once had the humiliation of having to inform the computer magazines that they had sent to them disks of a game infected with a virus (Not their game called 'Virus'!).

But companies are not the only ones infected by viruses. In fact, it is often the home user who brings an infected disk to work that begins the infection process. This was the case with Reflex.

"One of our customers had supplied us with an infected disk, " Tim Watson, sales manager, said. "There was no end to the problems it caused. Since then, we have installed several virus checkers."

"The multi-tasking power of the Amiga makes it an opportune housing environment for two known classifications of viruses; those that live in the bootblock; and, those written to live in files."

VIRUS STRAINS

Including the Macintosh and other machines, the virus count has reportedly risen to 25 strains, of which the Amiga now has its fair share. The obvious question is how to determine if you are infected, and from there to determine the extent of the damage. Computer journalists have debated whether or not to describe the effects of each type of virus. No one wants to give virus writers any publicity or ideas for new strains, and yet self-diagnosis is essential to ridding yourself of these nasty buggers.

cont. on next page

Feature

"YOUR COMPUTER IS NOW ALIVE!"

continued from page 21

The multi-tasking power of the Amiga makes it an opportune housing enviroment for two known classifications of viruses: those that live in the bootblock; and, those written to live in files.

Steve Tibbet, creator of VirusX – possibly the most well-known PD software for the Amiga – has classified seven viral strains of both varieties: the Swiss Cracking Association (SCA), the first known virus; the Byte Bandit; the Byte Warrior; the North Star; Revenge; Obelisk Softworks Crew; and – most recently – the IRQ. His program, VirusX 3.0 should be hitting the PD world very soon.

Some of the Amiga virus strains that you are most likely to encounter include:

SCA: takes over your computer screen, printing "Something wonderful has happened...Your Amiga is alive!! ...and, even better...Some of your disks are infected...by a VIRUS!!!" The SCA virus resides in the bootblock and inadvertantly damages some copy-protected disks by wiping out the code — you may get the message "Not a DOS Disk."

Byte Bandit: shuts the system down entirely.

Byte Warrior: loads and copies itself, writing to custom bootblocks so that the disk will not boot.

IRQ: encrypted in a file, the virus changes the title bar in the CLI message to "AmigaDos presents IRQ Virus Version..."

Amiga 2000 owners must be wary of both the Amiga and the IBM compatible types. According to Soloman, who is also one of the virus doctors at the UK data recovery company S & S Enterprises, the most common viruses on the PC include: Brain; Italian; Stones; 648; 1701; and 1813.

Brain: changes floppy disk's Volume label to read 'Brain' and infects the zero-track and boot-sector.

Italian: sits on floppy or hard disks and generates a bouncing ball on the screen.

Stone: prints the message, 'Your computer is now stoned.'

648: causes files to grow by 648 bytes.

1701: causes files to grow by 1701 bytes; after a random amount of time, the screen becomes a 'snowstorm' where the letters fall to the bottom of the screen accompanied by the sound of a hail-storm.

1813: makes each file it infects grow by 1813 bytes — too large to load into memory; therefore, the program will not run and the infected files could eventually replace all memory, including the hard disk.

Damaged software, files, time, information, money...lost. Who writes these viruses? Do they do it for notoriety? By directing attention to them, are we just feeding their egos? Judging by the mound of newspaper clippings we have collected over the past four months, viruses are a significant threat to all computer users, whether they are operating micros, minis or mainframes. And slowly, but surely, legislation in the UK and the US is starting to reflect the seriousness with which society regards tampering with data security,which can be a serious danger to many aspects of our increasingly computerised lives.

Next month Nancy Picard looks at prevention, protection and cures for Amiga and IBM PC virus strains and at the pending legislation to punish virus writers. Stay glued to your seats for THE REVENGE OF THE VIRUS – PART II!

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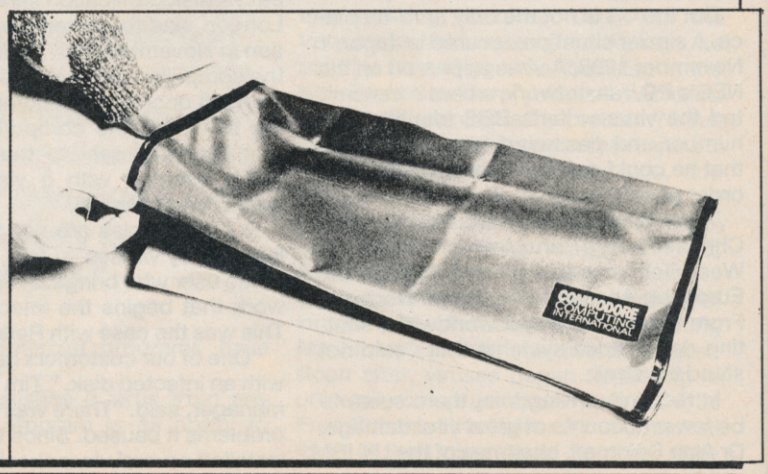

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The High Llama praising Anco? And finding another super console! The too-good to hurry Minter (he missed last month!) is back...

Hello again, and welcome to the new timezone. I returned to Tadley over the holiday period, where we all had a very PC-Engine Christmas; the game played universally, constantly, by everyone, all the time, was 'Alien Crush', the weird PC-Engine pinball game with strange alien graphics (ball chutes which look like intestines, bumpers which hatch out into roaches, pulsating brains which split open and disgorge aliens, and alien mouths which eat your ball and regurgitate it as if they didn't like the taste). It was very interesting to note that the game was played universally; although most of my friends are video-game-literate and are used to plying a joystick, there were members of my family who seldom, if ever, use a videogame of any description and who shy away from having a go of even the simplest shoot-'em-up. The pinball game was played by all. There must be a gap in the market there, for the sort of games that anyone at all can play immediately, to a fair degree of skill, even if they're not a zap junkie. Pinball works because everyone knows basically what to do (I've never yet encountered anyone who couldn't grasp the idea of pinball) and there aren't a lot of controls to learn — just left and right flipper. must be possible to design more games which have the same kind of universal appeal — simple controls, fair bit of luck, easy to understand — but as games get more savage and complicated, the art of simple game design could be lost forever.

Now, if anyone were to release a simple, fun game on one of the 16-bit machines, they would surely be castigated by reviewers for not 'exploiting the machine' (read: filling up memory with unnecessary graphics and irritating samples), or else the game would simply be ignored. As a case in point, I am currently addicted to an Amiga game which I have never seen reviewed, which technically wouldn't stretch a C64, which doesn't even scroll, doesn't use HAM mode, isn't 3-D... and most people won't even have heard of it. The game in question is an unsung little number called Quantox, currently on release from Anco, and I must admit that the first time I booted it I wasn't exactly blown away; y'see I'd just copped a whack of new Amiga stuff, much of it flash and noisy, 3-D and spectacular. But no, some weeks later, the flashy scrollers are in my disk pile with all the rest and it's Quantox which is living in my boot drive, ready for a few rounds every now and again when I break off from Devpac and flip on the Amiga for a few games. All you do is move a little spaceship around an arena firing at little enemie which turn into beachballs when shot; you collect the beachballs, avoid the green slime, and pick up the occasional power-up. Occasionally you have to shoot a centipede or a mothership to earn extra credits with which you can buy extra shields or triple bullets; usually for me it all ends in tears about Level Fourteen when the green slime gets a bit vicious and the enemies don't stay beachballs for very long.

Technically, a very unspectacular game; as I say, a C64 could handle it pretty easily; but it's great to play, there are some simple, but clever design touches, and it's got one hell of a hook.

It is a shame to see a great game being totally overlooked just because it isn't technically awesome. If you see the game, give it a try, and I'm sure you'll agree once you've had a few games. Highly recommended — 'a wicked choice' if what you're after is a good game rather than a graphics and sound demo costing £25.

Speaking of good design, just before Christmas I went down to Konix HQ and had a look at their new game system. I can't tell you any technical details at all about the system, as I want to program for it and I was obliged to sign a heavy non-disclosure agreement so I mustn't spill any beans, but I will say that I've seen the latest and hottest from Japan — PC-Engine and the 16-bit Sega — and in terms of innovation and excellence of design, the Konix system just vaporizes both those systems.

Certainly, I hope that programmers of the Konix (and the Amiga and ST!) will wake up to the fact that it's about time a bit more thought was put into a game's design. At the moment, everyone raves about the latest R-Type clone, with all those weapons, graphics, and levels; but if you analyse R-Type and its clones, you find that the underlying game design is simpler even than the ground-breaking Williams Defender. R-Type is what you might call a pattern game. Every time you play, the enemies always appear from the same positions, follow the same flightpaths, and behave in the same manner until they scroll offscreen or are destroyed. There is no intelligence to their actions; the only differences to occur between games are in the trajectories of their bullets, which are usually aimed towards the player's ship, which constitutes the only element of randomness in the game, as it is not controlled by the program and can, of course, be anywhere on the screen. Compare this to Defender, where each enemy has a discrete 'personality', some following characteristic (but slightly randomized) flightpaths (Bombers, unopened Pods), some attempting to perform certain tasks (Landers looking for Humanoids to abduct, Baiters attempting to vapourize your ship). The Defender player can never say where the next enemy will materialize. In terms of game design, R-Type is actually more akin to Space Invaders, which was a strictly pattern-oriented game (the Invaders always came at you the same way!). Ultimately, playing a pattern-oriented game involves a learning/memory process which ultimately becomes boring (nothing unexpected ever happens in the game, and as the player gets better, having to grind his way through unchanging early levels gets to be a pain) once the key techniques to handling a level have been sussed. The Defender player, however, despite not having level after level of flashy graphics and weaponry, has a much more exciting game every time. He has to constantly analyse and react to an ever-changing battle scenario involving intelligent enemies, where no two games are ever the same and the outcome is never predictable. Back in the early days of videogaming, it was this nonpredictability — look at any of the classic Eugene Jarvis/Williams games (Defender, Star Gate, Sinistar) — which led the way forwards from the earlier simplistic Space-Invader/Scramble gametypes. Now it seems that we are regressing back to that earlier, ultimately boring style of game design. The situation has parallels in cosmology — people have been arguing for millennia over whether out future is pre-ordained by whatever Divine entity we choose to believe in, or whether Man has the right, by conscious acts of freewill, to shape his own destiny. Choose R-Type and its clones, and you accept predestination; choose Defender and you allow yourself freewill. And as a game designer, I will choose freewill every time....

On this slightly cozmic note I will leave you. I have a weapon system to design for my latest ST game, TTFN....

J.M.

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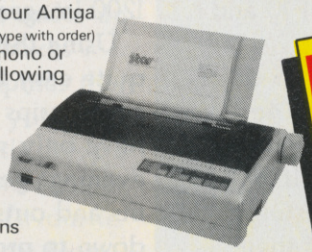

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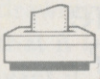

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PaperClip Publisher

Have you noticed recently the increase in availability of so called Desk Top Publishing software for the C64/128 ?

All this competition has lead to some great improvements and also some great advances in these type of applications. Much the same way as the games world was driven on in the heat of the competition. Most DTP packages have their good points such as ease of use and some have a few features which are disappointing such as the most important feature "the final printed result".

PRINTERS

Starting from the end product PaperClip Publisher will give you the very highest quality result possible from your particular printer. Most printer "types" are supported, all the CBM printers 1525, 1526, MPS801, 802, 1000 as well as the Epsons FX, LX, MX, Okimate 20, Panasonic KP1091, Seikosha SP1000 and the Star Micronix NP10 and NX10.

I have used many of these DTP programs but *none* come close to the fine result seen on these pages. If you want to create interesting and eye catching layouts then this is just the thing to suit you. Without scissors or glue this page was put together by

this powerful layout program. This product for the C64 allows you to set your copy directly to the page or create text files which can later be edited then "poured" into your page. Even text files from some word processors like PaperClip, Word Writer, Bank Street Writer and Paperback Writer are all compatible.

Graphics are a snip, you may draw directly to a graphic file creating your own, or once again PaperClip Publisher will allow use of clip art from the likes of Print Shop, these are easily available and relatively cheap now with a choice of some 1200 images.

Using this product, it is quite easy for the novice to get to grips with, after all I have only spent a couple of evenings getting to know the ins and outs before I got down to produce this document. You can print out Club Newsletters, Posters, Programmes, Leaflets, Flysheets, Brochures and Reports, the list is endless and could be very productive. A wide range of typefaces and typestyles along with super graphic capabilities make P.P. among the very best. The blocks of text or graphic images can be "poured" into a box on your layout.

These boxes can then be shoved around the page almost at will, enlarged or reduced to suit the layout. Combine this to the fact that other fonts can be grabbed from Geos Fontpack 1 (I used a Geos font for the banner at

BEAUTIFUL

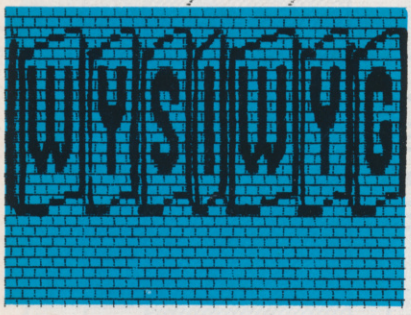
the top of the page!).... Impressed ?

The double sided disk based program boots up displaying the now familiar WIMP pull down menu system, best suited to a 1351 mouse controller, however, any good joystick will suffice.

The first time you use this program you must spend about 15 minutes creating a "work disk" onto which you are advised to copy all your fonts and printer files you will be using later.

This work disk is then used to save your pages, graphic images, text files, special fonts etc. As I stated earlier the main objective of P.P. is to make up pages by producing "boxes", pouring in text or graphics then moving them around your page to suit. This, along with the ability to use text from files produced using your favourite W.P., combining clip art from Print Shop, Newsroom, Doodle, Print Master and Outrageous Pages, must make this one of the most powerful and adaptable DTP programs around today.

A 96 page spiral bound manual gives you all the information needed to get off to a quick start, then a more detailed look into the workings that will have you fully



conversant in a short while. There is a lot to learn, however, the screen has a menu with 18 icons for quick point and shoot operations. The page area into which the boxes are pasted can be adjusted from 8" wide by 14" deep down to just 3" by 3" square.

White margins around the page can be adjusted also to

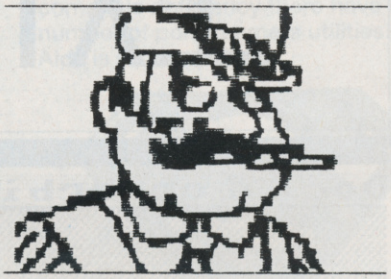
suit. In this way you format the page adding columns and banners etc. P.P. automatically justifies your text to the width set by your box, if you then change the depth or width of the box, text reformats around accordingly.

P.P. allows so much to be done to the way type finishes up on the page. The spacing of lines, the spacing of words and the spacing of each letter, are all user definable! This is something you do not find in all products of this type, but it does go to show just how versatile P.P. is.

Typestyles may be altered in many ways there are plain, **bold**, *italics*, underlined, **shadowed**, outlined, back slanted, light, umop apısdn, bɘɿoɿɿim, subscript, superscript, or reversed. Thirteen different ways in all plus a sideways font, plenty of choice.... ***PHEW!***

After choosing a particular typeface, typesize and typestyle the text is poured into the box, where it is too long to fit into one box, you are permitted to link up several boxes together, including boxes on different pages such here in this review. Text may be flowed around a graphic image, all these features are fully automatic and are easily operated from the extensive pull down menus and icons.

The graphic editor will allow you to create a freehand drawing and even edit it so that it looks just how you want it. Should you make a mess of things....yes I know.....(I have several times producing this piece!) you may use the mop to erase the contents of a box and start



over again, or throw the whole box into a rubbish bin!

The effect of seeing the text on page at all times proved to me to be quite a problem and very time consuming. P.P. redraws the page if you change something each and every time. I became annoyed with this until I had fully understood the manual. (what's new?) There is a pull down menu that stops all the boxes from displaying their contents until you need to examine them, so avoiding redrawing each time.

I had a great deal of fun making up these pages, I hope you find Paperclip Publisher good fun also. Become a hack, become a business man, become a millionaire P.P. will

cont. on next page

continued from page 27

PaperClip Publisher

help you produce good looking page artwork that you should profit from. This program and Print Shop graphics clip art disks are all available from:

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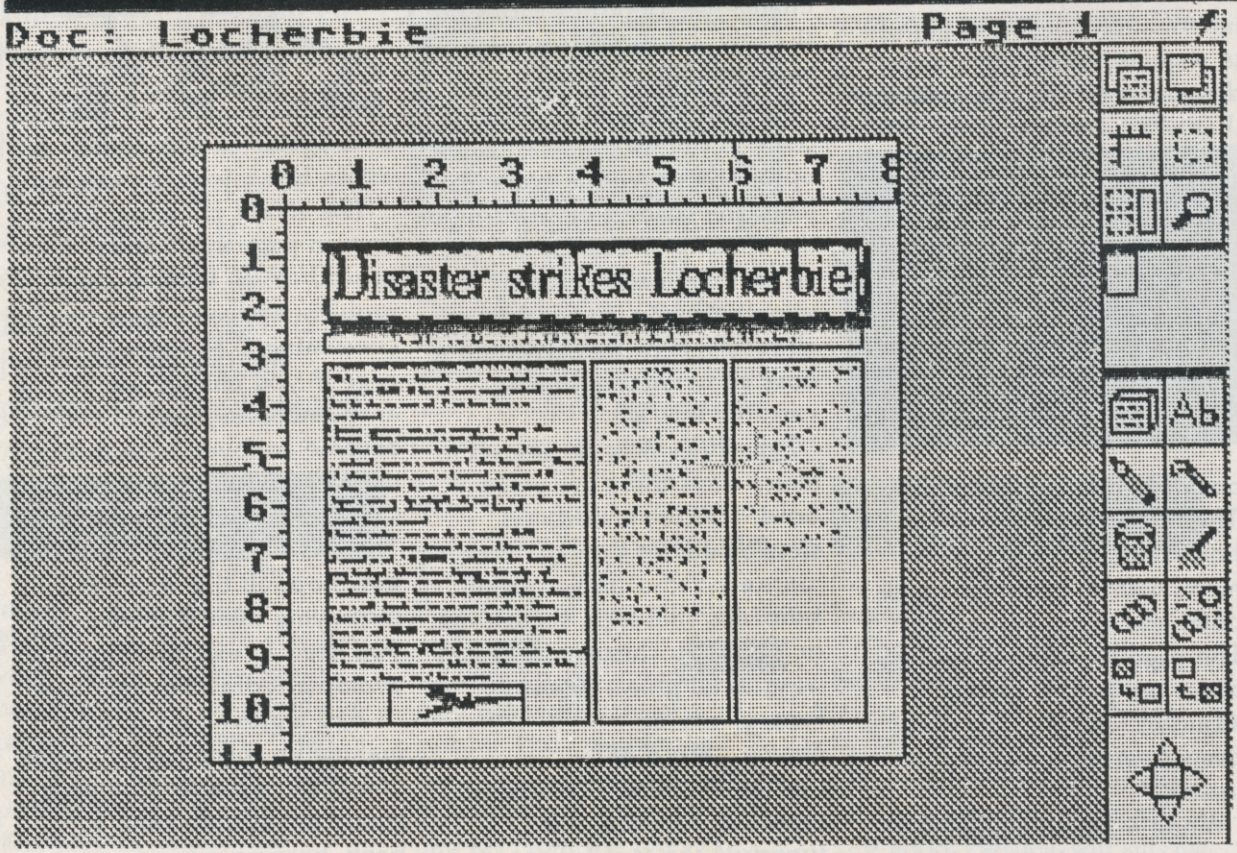


Free Spirit's Three

Free Spirit Software have produced quite a few budget priced software packages over the last few years, worth taking a look at

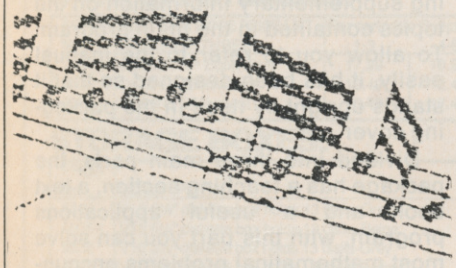
Music of the Masters

(C64 or 128 in 64 mode)

Price: £2.99

This is a very simple piece of software, there is nothing for the user to do except load and run it. There are no instructions aprt from 'load "*",8 and run – and it does not really need it.

This disk is packed with samples of music from some of the best known composers in history. As each score is played a few lines of text about the composer is displayed. I will say no more about the content of the disk, as I think that it would spoil some of the effect of it.



The software is all in basic, so it does show just what can be done with the C64 and it's so-called 'grotty' basic.

I have only two comments about the software, the first is I would have liked to see a means of skipping from one score to another after a few bars. The second is that this sound quality is not terrific. The C64 has a very good sound generating system, as far as 8 bit micros go, but it is a long way from Hi-Fi quality, and some of the music does suffer from this.

Technique 64

(C64 or C128 in 64 mode)

Price: £2.99

This is a rather unusual program, it is clearly aimed at the beginner, and is almost a programmed learning system, however there are no answers that you must type in.

There are eight main sections to the program, which are..

Print Graphics
Hi-res Graphics
Poke Graphics
Sprites
Sound
Music
Game
Quit

each one apart from Game and Quit have several sub menus for each topic. Once selected the program will start to explain how to program the C64 to do all sorts of things, it is very clear and easy to understand..in parts! I did find that Technique did tend to jump about a bit, and some users might find that progressing from beginner to advanced programmer in three or four screens a bit daunting!

Technique is presented very well, in fact, Technique encourages the user to modify the examples, as quite rightly it states that the best way to learn is by doing so. The most complex part of the system is the Hi-Res graphics, and to make life easy Technique has had to resort to a couple of machine code routines to clear out the colour memory and the main Hi-Res screen, but these routines are presented as as isolated piece of code that the user just calls with a simple SYS number.

This program would suit someone who can already program in basic, but who needs to find out about the C64 system. It provides a good source of tested working routines, with the added bonus that the user does not have to type them in!

Super-Aide

Price: £13.95

Basic is perhaps the most common of all computer languages, and there are a wide variety of Basic's that can be found on various machines. The C64 has a very standard Basic, written by Microsoft, and as such it is a no frills Basic. That means there are no easy ways to access the disks or trace a program through to debug it. To overcome this deficiency there have been a number of porgrammers utilities. Super Aide is such a utility.

There are over 40 commands available to the programmer as well as a very good machine code monitor, Xmon. Also included is disk doc deluxe and a datamaker program. These three programs would make a very good utility package for any programmer, but when you include the Super Aide commands as well, you end up with a very powerful utility.

All of the Super Aide commands are available to the basic programmer, and Super Aide itself is hidden under the C64's Roms, this STILL leaves the $C000 (49152) area of memory, that is commonly used to store machine code, free for use.

So let us have a look at some of the commands:

There is a fairly standard DOS wedge type of interface, with commands such as @ to read the error channel there are commands to list the directory, without destroying the program in memory and of course to load and save programs. However there are a few new twists incorporated into this part of Super Aide. When you list the directory to screen,

NUMBERS AT WORK

Using his computer as a personel tutor, Bob Collyer increases his brainpower...

Were you an good at maths when you were at school? Did you find things difficult, confusing or boring? Well, I have just the thing for you that may change all that. You could even end up liking numbers and if you do then why not let numbers work for you?

Collins Soft have produced this program which forms part of a complete series of helpful and informative packages. They range from starting up your own business to watching the stars in the night sky. The series is called Brainpower, quite a good title as you can improve your knowledge with every one of these educational programs.

By the time you have completed this course, you will be able to manipulate numbers with the same skill and dexterity as a fast-talking salesman.

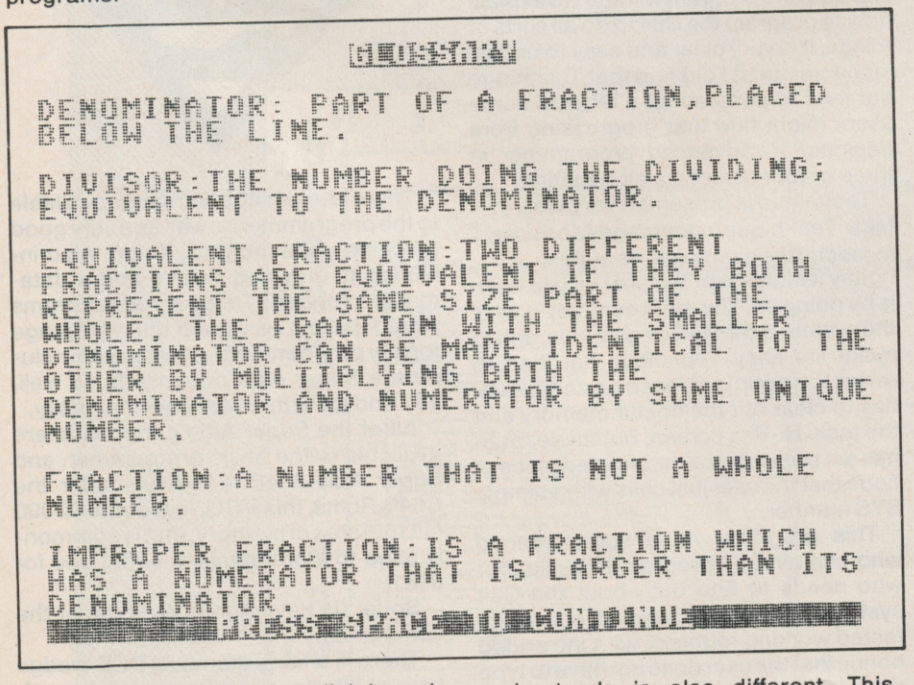
"Computers themselves are the masters when it comes to crunching numbers, so who better to learn from?"

Teachers working in schools have to teach mathematics to groups of pupils in a class all together in one room. Each pupil has different learning skills, the rate at which each pupil understands is also different. This makes it difficult for the teacher to impart wholly the information required by each pupil when each pupil is ready to learn.

Learning by computer allows the pupil a chance to take in and understand at his or her own rate. You can pace yourself, go at your own speed. No computer has ever thrown a great lump of chalk at you to regain your attention when you take a quick look out of the window for a second. You are in an environment that allows you to be taught methodically, patiently and thoroughly. Computers themselves are the masters when it comes to crunching numbers, so who better to learn from? Being taught by a computer is the only way to be sure that each example has been fully understood before moving onto the next. The program was designed for all kinds of people with a wide range of skills, ages and backgrounds. A 60 page spiral bound text book accompanies the twin disk package, containing supplementary information on the topics contained in the main program. To allow you to refer to the manual easily, it has been designed so that it stands upright by itself in the packaging cover.

Divided into three main parts, the package has a teaching section, a text book and a useful applications program, with this part you can solve most mathematical problems encountered in everyday situations. The teaching section has been divided into eight modules. "Working with Fractions" teaches you how to add, subtract, multiply and divide with them. The chapter on "Ratios & Proportions" examines their use and their relationship to fractions. "Decimals & Percentages" and how to convert between them and fractions. "Applying Percentages-I" which includes discounts, margins, markups, VAT, PAYE, commissions and brokerage. "Applying Percentages-II" show you how to work simple and compound interest rates with linear and non linear depreciation. A chapter on "Growth Rates and Indices, an area which is often misunderstood and missused. "Useful Techniques" pres-

continued on page 32



Numbers At Work is a disk-based introduction into business and everyday numeracy. You know the sort of thing I mean, making calculations on mortgage repayments, VAT values, discounts, PAYE taxation, things we all come across in everyday situations.

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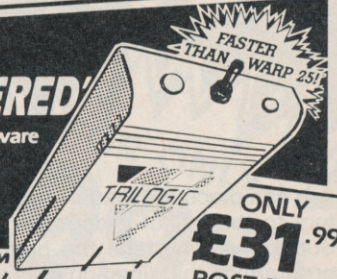

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continued on page 32

Free Spirit's Three

you can place the load or save characters to the left of a directory line and Super Aide will take the name of the program on that line and operate using that name. Both Basic load, and machine code loads are supported, as well as Load and run operations. One command that I found very useful is the list to screen, a pound symbol, this will take the name in the directory line and list it to the screen, so what, that's nothing clever some of you might say, but when the command will sort out Program, Sequential, Relative User and Deleted (not scratched) files without problems that is clever.

There are also commands to display the load address of a program, rename and scratch files. Most of the Dos commands will support pattern matching as well.

The programming commands are a little more extensive and cover all of the normally expected functions such as FIND, CHANGE, AUTO, DELETE, RENUMBER. Renumber is interesting because partial renumberingis possible by specifying a range of line numbers. This is very useful for tidying up subroutines when you want to keep the same starting line number.

The next set of commands are activated by the restore key, this has the effect of freezing the program that is running and allowing the use of things like screen dumps and program tracing. You can set up the screen colors, echo characters to a printer, perform Hex-Dec-Bin number conversions, and perform screen dumps. You can also control the repeat key, and define up to 10 chars for each of the function keys. A DUMP of used variables is also available, but you are warned not to execute this command with the programming running, as this could cause a system crash. The obligatory UN-NEW command is also available. It is from this mode that you can display two help screens.

By now you will have got the idea that this is a very good package, but there is more.

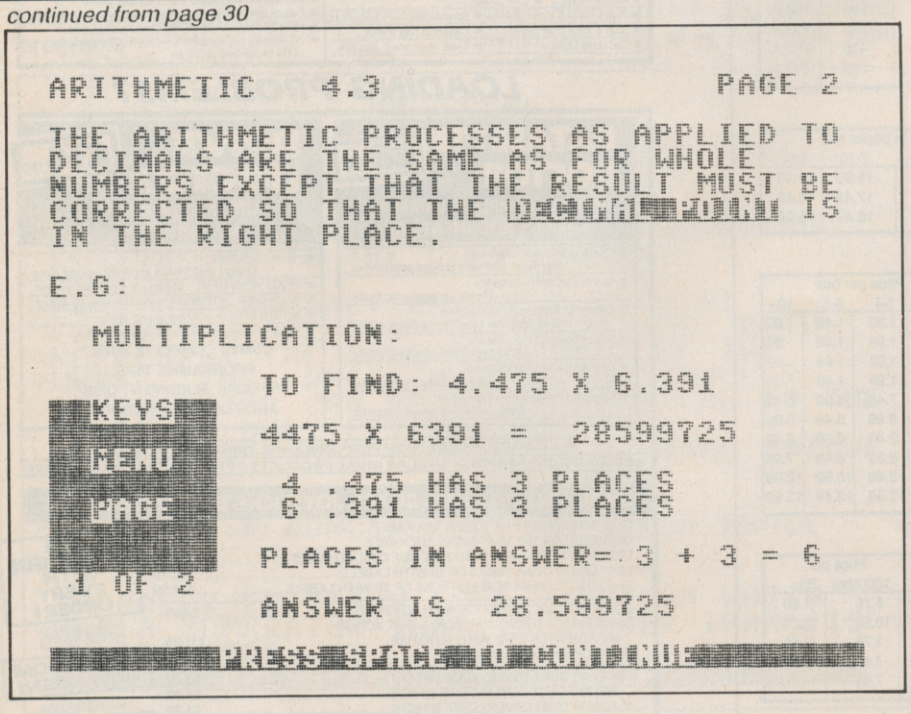
From the restore key command you can enter a lo-res screen editor that enables you to capture and modify screens. The most outstanding feature of Super Aide is its editor. It looks almost the same as the standard Commodore editor, but it allows scrolling in both directions, with program wrap around from beginning to end.

Super Aide has a very simple handbook, but it is very clear and it does explain the commands very well. The surprising thing is that it is all on disk, and may be called up and printed out if you require to do so. Likewise there is documentation for the disk doc. and the screen editor on the disk, with all this you will not be too surprised that the disk is completely full, so you get a lot of code for your money.

To conclude Super Aide is just about the best toolbox that I have seen for the C64, and it is also very reasonably priced. (It may also, in common with all Free Spirit Software, be backed up without anyproblem at all). A really excellent product. ***Highly recommended.***

A.E.

continued from page 30



ents a series of related skills that recap some of the more useful mathematical operations already learnt. "Summary if Ideas"is a written summary of all the concepts presented in the teaching program.

Loading and running this program follows simple menu driven options. As each new subject is tackles on screen instructions help you make your selection. A self timer can be activated, this displays a running total of the time taken as you proceed to answer each set of questions. Thus, you can see how quickly you respond to questions and it is possible to monitor your own rate of improvement.

I believe that this program will benefit everyone who suffered at school from the "fuddy duddy" system we were supposed to be able to learn from. I remember finding it difficult to grasp some of the principles put in front of me when I was at school. Until it was made interesting and fun, one teacher in particular gave me a new insight into the fun that can be had from numbers and their funny workings. Many tricks and tips are well documented in the program, how else did you think Paul Daniels got his mortgage? Short cuts are another beneficial part of learning numeracy. Quick methods of calculation will enthuse and encourage you to become more familiar with numbers. Using this program I have rekindled my mathematical skills, furthered my knowledge and understanding of numbers, given myself a cheap refresher course and now have an application program to help me through everyday numeric problems. Try it for yourself if you think that your numeracy is letting you down. Einstein would have benefited so why shouldn't you?

B.C.

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GE

'Those nice people from Berkeley Software', Bob Collyer says, 'have come up with some marvellous extra goodies for the popular Geos series'.

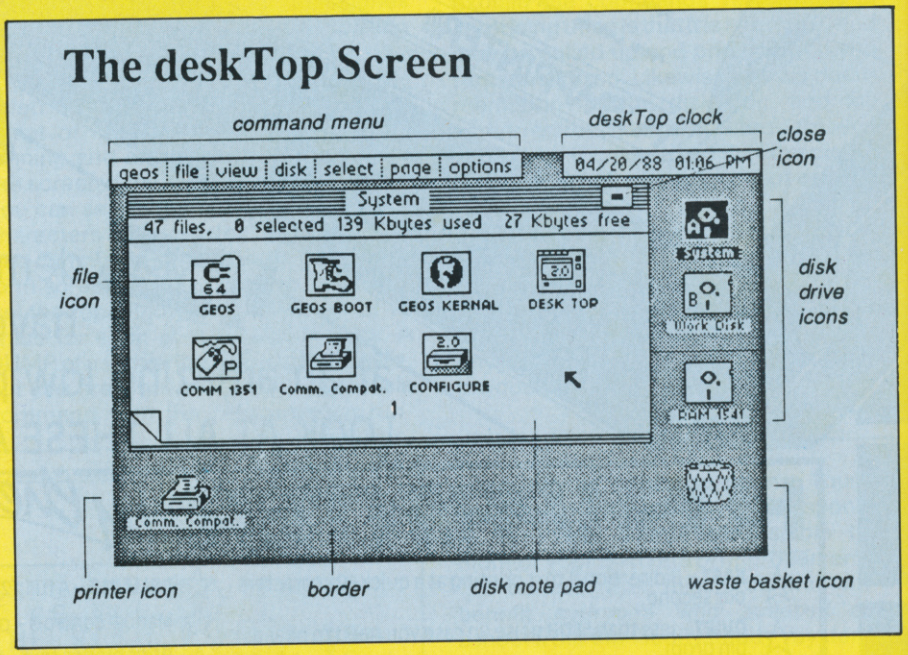
The very latest Geos version is now available here in the U.K. It has many slick improvements and more applications to keep everyone happy. That is to say, if you already own an earlier version of Geos then its latest product contains enough new additional features to warrant the expense of upgrading. Newcomers to Geos will get a more complete package than was ever available before.

The new features on version 2.0 include an updated version of GeoWrite 2.1, the word processing application. A new and more efficient Desktop file manager also gives you five handy desk accessories. A new disk turbo allows you faster handling of all Geos applications. GeoPaint has many new extras that have been thrown in to enhance your graphics utility. And still they come.....GeoSpell is added to your package making this not only the most complete but the best value that money can buy.....Text Grabber lets you grab text from any Commodore W/P such as Word Writer, Paper Clip, Easy Script and others, converting them to Geos.....GeoMerge is included also for creating form letters or address labels.

"The nice people from Berkeley Softworks have been very generous presenting us with such a complete range of Geos and super applications with new features."

This really has just got to be the best ever deal for anyone considering buying Geos for the first time. The nice people from Berkeley Softworks have been very generous presenting us with such a complete range of Geos and super applications with new features.

The deskTop Screen



There is no need to worry if you own a Geos applications disk already, like GeoFile or GeoCalc, because although they were "keyed" to your original Geos system disk you are given the ability to "key" them to the new system disk when you first initialise version 2.0

Opening This little pack of goodies you will find three double sided disks as well as the 300 page manual that was necessary to describe all the various applications. I shall tell you about a few of the great features under the Turbo charged bonnet.

To begin with the latest version of GeoWrite. You will find four kinds of justification. Range left, right, centred or full left and right justification these are all possible now, even in the same document as you can have individual paragraph formatting. Remember the old version where you had to have a one inch margin at either side, well now those restrictions no longer exist, margins can be pulled right out to give another two inches on the width.

The new title bar includes a page indicator like the one on the 128 version, this shows your current position on the page. There are new line spacing options letting you open up line spacing to one, one and a half or even double lines. There are new header and footer lines for the top and bottom of your pages. Search and replace to ease your editing problems. Ten fonts in the usual seven styles go one better than the previous version, because using the Commodore 10 typeface, near letter quality print is possible. This quality wasn't available before and still cannot handle graphic images in a document but the best possible printed result is produced, something that is a real benefit.

Graphic images can be pasted into your document in GeoWrite once they have been created in GeoPaint. Multiple column pages are another extra, the kind you see on this page. Paint drivers are new and are used for this purpose. With this application you can create special effects with a

EOS™ 2.0

GeoWriter document. You can create a mini newsletter DTP style, paint drivers let documents have multiple columns. For example you many drop graphic pictures into the pages as well with borders and displays and display headings to make the page look just like a newspaper.

GeoSpell is the companion to GeoWrite, a spellchecker that now works 38% faster than previous versions. GeoMerge is another application that comes with the system disk. Customised form letters are simply made with this mail merge program.

"There is a new and easier printer driver selection, you may recover scratched files, copy files faster, on screen colour coding of files are some more pretty good extras."

Geos 2.0 has a new and more advanced deskTop file manager. The usual sort of files or view files by icon or text, size or date are there along with many new features. Two drivers are supported as well as a RAM expansion unit. Multiple files can be selected and handled at one time. There is a new and easier printer driver selection, you may recover scratched files, copy files faster, on screen colour coding of files are some more pretty good extras. On screen date and time make this a professional looking version.

The Desk Accessories thrown in are calculator, notepad, alarm clock, screen preference manager, photo/text managers, cut and paste options and name photo album pictures.

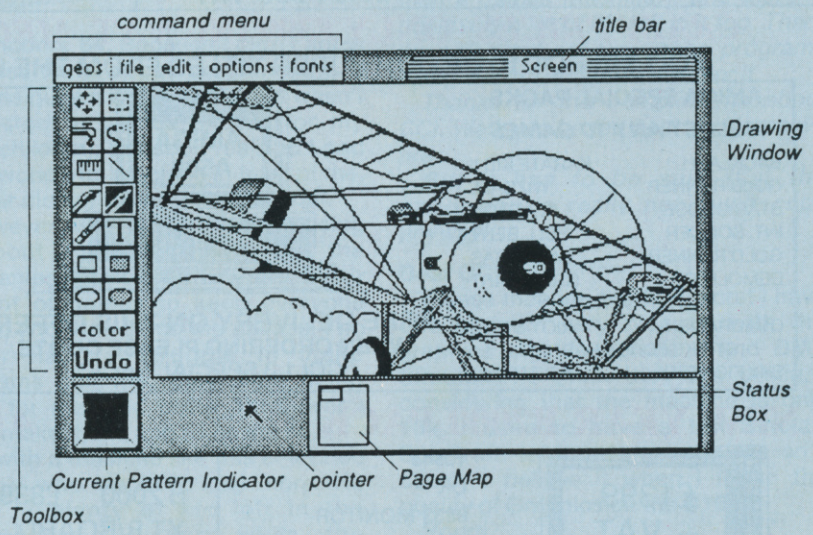
GeoPrint, the very versatile graphics application, has also undergone one or two cosmetic changes. The best thing that GeoPrint offers is a remarkably easy to use utility to create your own pictures, paintings, clip art pieces and geometric drawings. New features allow even more shapes such as ellipses, squares and connected straight lines, not possible before. Stretch and scale images and overlay effects. All this on top of the already sophisticated program must make GeoPaint one of the most advanced C64 graphic tools.

Remember that all other C64 Geos products are fully compatible with this one. Many Geos applications like the database GeoFile or the spreadsheet GeoCalc let you exchange data between each other, to add these to Geos 2.0 will give the owner one of the finest all round systems available for the C64 today. I have finally to mention one more feature that so far I haven't dared to tell you. If you have access to a laser printer *(fat chance!)* using GeoLaser and Postscript you could have all your GeoWrite files printed out in near typeset quality! I know that hardly anyone will have access to one of these laser beasts but if you do, I think that here we may have a really good and cheap way to get typeset material. ***B.C.***

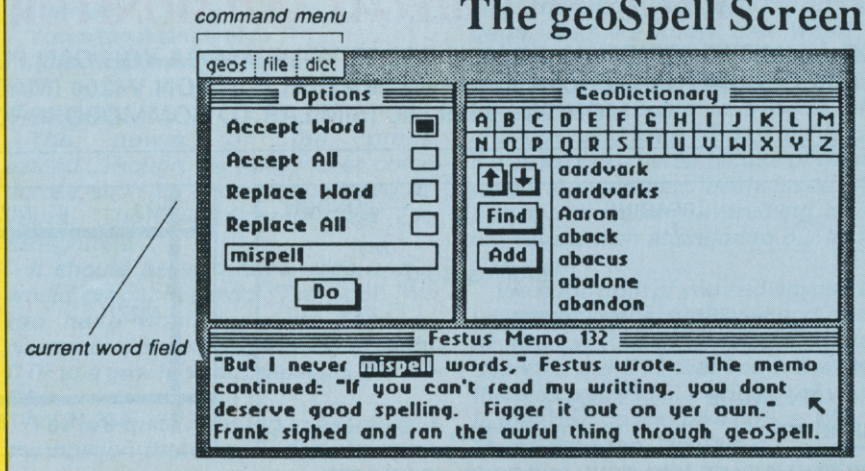
Price £38.95

Contact: Financial Systems Software Ltd, 18 High Street Penshore, WORCESTER WR10 1BG. Tel (0386) 553153

The geoPaint Screen



The geoSpell Screen



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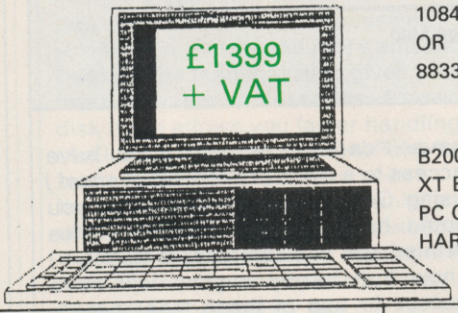

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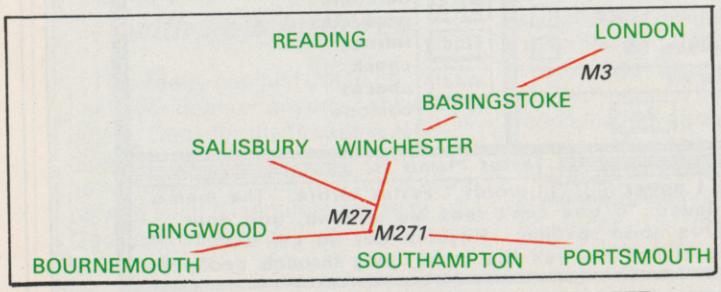
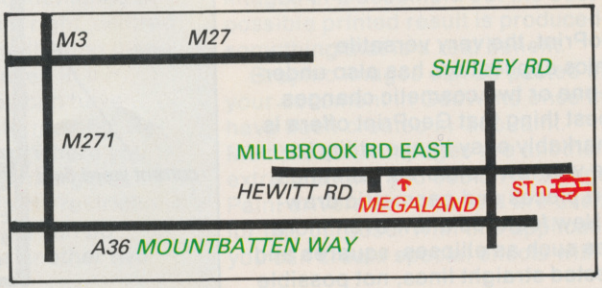




APPROACH VIA M3 TAKE M271 TOWARDS TOWN, TURN LEFT ONTO MOUNTBATTEN WAY, BEFORE STATION TURN LEFT TOWARDS SHIRLEY AFTER 50 yds LEFT INTO MILLBROOK RD MEGALAND IS 250yds ON THE LEFT, 3 MINS WALK FROM STATION.

MEGALAND

The Daily Corzette

AND TOE STRAIGHTENER

Issue 1 — 1st January 1989

Dear C.C.I.,

Firstly it's in answer to a question I asked about six months ago, which I think I put in with a competition, so you probably didn't get it. It was concerning the back up copy of "Newsroom", that is mentioned in with the Newsroom, but they mention U.S.A. So do you send direct to them or do you have copies??? When I mentioned this in my letter I also said that owners of the Newsroom might be interested in the answer, 'cos if Tim Colledge can make mistakes, so can we, and although you were very good, and we certainly appreciate that, I believe in the old boy Scout Motto 'Be Prepared'.

Apart from that I must say this "NEWSROOM" is really WONDERFUL, and I'm only that 68 year old Amateur, messing about, and it got me my money back from a firm that didn't seem to want to know until I sent them a 'joke' copy of a Magazine I said I would send to every newspaper, and within three days I got an answer and a cheque to shut me up. I'll enclose a copy just to show what a nut can do with Newsroom.

Which brings me to your Editorial, as I said in my first letter to you over a couple of years ago or so ago, I didn't buy my Commodore 64 computer to play games on, it's a waste of a darned good computer.

In 1980 I bought a portable video and camera and by 1983 I was wondering if it was possible to use a computer to put titles etc on to the video and so make my work more 'professional' so I wrote to Sinclair. They were so long winded answering my letter that I had bought a Commodore 64. Because I didn't know the first thing about programming it took me quite a while, (as I said I wasn't interested in games except for my grandchildren), but soon realised I had got a wonderful machine in front of me. Sinclair did me the best favous of all.

However with all the moaning going on about the lack of software, the companies started turning out a fair amount of games to keep everyone happy, and then came the utilities. I no longer had to struggle to make programs suit me, they were being made for me, and better than ever I could make them, and all on the 64.

So with a machine like this at a price like this who wants to pay more. No there is plenty of life left in the Commodore 64 and while the companies keep turning out such good stuff for it, you couldn't ask for anything better, this machine will do it.

It is only a pity the youngsters don't realise what they can do with a computer beside playing games, I'm too old now but there is no end to the ways they could use a computer to gain a little business on the side.

Well I had better close before I bore you, keep up the good work, and also as I have said before "you are the best" and I know I've tried them all, the only one that was any good was "Your 64" and that was bought out, and that was the end of that. I kept on with it for twelve months but it was never the same after.

I remain,

Yours most sincerely,

John Mullowney, Cheshire

Dear John,

The power of the press indeed...Though we have never come across such an unusual masthead as yours. "The Daily Corzette and Toe Straightener".

It should be sold nationwide and it would probably outdo "The Sun". We too have been longtime fans of Newsroom, and it has certainly brought DTP to a new high on machines like the C64.

You are quite right too in expressing the opinion that the 64 is much more than a games machine – and there is positively a lot of life left in it too. There are still plenty of very good programs being written and published for it.

Thanks for the compliments about CCI. We try to be the best and hope we are.

But it has to be said that the opposition is really not much copy anyway!

Dear CCI,

Please mention the C16 more! I have one and am very pleased with the graphics e.g. Joe Blade 2 and BMX Simulator. I think they are brilliant considering that the machine is only 16k. I used to have a 16k Sinclair Spectrum and that was useless so I couldn't believe it when I found the quality of Graphics on the C16.

Yours,

Daniel, Cambs

***Dear Mark and Daniel** (or is it David? Your writing is terrible!)*

We are sorry that you, Mark especially, are seriously annoyed with CCI.

Because we would really like to review more C16 material. But it isn't "utter rubbish" to say that we can't review software that isn't around. Software houses are not even bothering to tell the press when they release C16 games. We plan however to get as much recent C16 stuff together for our next issue and review it. We hope to include the games you mention. And yes, we have changed – especially the contents page. And we know that when we change something there will always be letters complaining about it! But now and then we come to a point when changes need to be made – in this case it was to give a better picture of what the magazine contains each issue. And perhaps in making everything clearer we have drawn attention to our lack of C16 stuff!

We hope both of you and anyone else who feels (probably rightly) aggravated at the way that software houses deserted the C16 that you will write to them as well as us. If enough of you do it, they'll sit up and take notice. Why not start a Save the C16 Club?

PROTE

Arnor

The PC is the most popular business machine in the world, but quality software for it is never cheap – Mark Smiddy asks if Arnor's British built package, Protext, will change all that.

The history of Protext is long and involved. It all started on the old 8 bit Amstrad 464 as the text editor part of Arnor's first product – Maxam – a macro assembler. So impressed were the reviewers, Arnor felt compelled to turn this simple editor into a full-blown word processor.

Protext is supplied on three unprotected disks with a beefy A5 ring-bound manual. The whole program is easy to use; the manual mainly covers its deeper features; like the mail merge programs etc. The advantage of the ring bound manual is when Protext is updated – you only have to replace a few pages and the software. You are entitled to one free update when you buy it though and Protext is constantly being improved.

Once Protext has been installed either to hard disk or backup floppies, it has to be configured to your system – a standard procedure made easier by a well-designed configuration program. The rest of the program concerns itself with the setting up of the display colours (colour systems only), page layout, editing and spelling checker options – and for the most part these are best left well alone until you are familiar with the rest of the package.

The other bug bear with word processing is of course printing. Does your word processor fully support your printer? In many cases you have two choices, put up with a partial emulation or buy a ready made printer driver. Arnor get round this by supplying a ready-made printer driver compiler. You construct a source file, run this through a conversion program and out comes a ready-made driver.

Supplied with the package are 41 compiled drivers, including the source for each so any can be tailored – or re-written if necessary to suit individual needs.

As the program boots for the first time, new users will probably be a little confused by the amount of information Protext supplies on-screen all of the time on a status bar. This is to keep the user informed about the current settings which may affect the layout of the document. Typically these will be:

Auto format on: Protext will format the text according to the current justification and word wrap settings as the cursor passes the right hand margin. When auto formatting is in effect, text is formatted each time the cursor is moved between lines.

Insert: Text typed will appear at the cursor and push other text out of the way – inserting in to the current document.

Overwrite: The opposite of insert. Text will be typed over what is already there.

Word wrap: If a word extends beyond the right-hand margin it is forced to the next line down.

Also shown on the status line are a clock (optional) the name of the document being edited and its size and the position of the cursor in the text. Normally the cursor position is shown in terms of Page-Line-Column. However in Program mode, Page changes to character count. There is no on-line word count – a simple external command takes care of this. Finally, there is the currently active printer driver. This can be changed at any time, but there is a little point – very few people use more than one printer for word processing.

Just below the status display is the ruler line. This is an unusual system – peculiar to Protext. Once you do master it – it really is a breeze to get those elusive tab settings and indents – anywhere in a given piece of text.

The default ruler can be edited in the configuration program of course, should you wish. Protext rulers look like this:

>——L——!————„————„——R

The "L" and "R" define the left and right margins respectively. Tab positions are indicated by the exclamation mark and decimal tabs by the full point – these are used to format columns of numbers. The real power of rulers becomes clear when you realise you can have them anywhere in the text. The currently active ruler is always displayed at the top of the screen so you can keep track of things. Grabbing the default ruler is a simple matter of two keypresses and because it is part of the editable text it can be changed very easily.

In practice though, the real proof of the processor is in the typing. The trick with Protext, is learning the short-cuts – there are a lot of them. For instance holding Shift and pressing the right or left cursor keys skips a word at a time. Pressing Ctrl (control) instead moves to the start or end of the line. Getting around the document is just as easy – Ctrl + [takes you to the top and Ctrl +] goes to the bottom.

Probably the most useful feature of Protext is the on-screen help, beginners and experts alike will find this a boon. It is even context sensitive and remains on-screen until you get rid of it. From here you can get help on almost any Protext command. Extra help is available from the main menu accessed through F3. More importantly, Help lists the most important parts of command syntax and the short forms where available. Having the manual handy does help of course.

No word processor worth its salt would be complete though without some form of cut and paste. Various systems have been tried in the past with varying degrees of success, although Protext still manages to come out pretty well on top. Blocks are defined using start and end markers. At the simplest level, these can be set by pressing Ctrl + Z. Both markers can be removed with equal ease.

However, there are times when simple block marking is not enough, when columns are in effect for instance. To cope with this, Protext includes a special Box mode for blocks. Markers are set in the same way – but this time Protext surrounds the marked area with a block of markers. This block can then be cut and pasted in the usual way. Other block operations include printing and saving.

Protext is more than just a word processor. Its roots were as a simple text editor. To this end Arnor have incorporated a special program editing mode which switches off all of the

TEXT IV

document formatting commands. This makes Protext an invaluable tool for editing progrtams since files saved in Program mode are in pure ASCII without any strange formatting characters that might disturb a compiler.

When you get more used to the way in which Protext works, you will need to explore its higher functions like the embedded commands. In fact the rulers which I have already explained are a simple form of embedded command. In Protext, embedded commands are prefixed by a > in the first column. All embedded commands take the form of a two letter opcode. For example to set the page length within the text to 70 lines you would type:

>PL 70

It really is that simple. The only tricky bit is learning the vast range of commands available – even so all of them have sensible names, as you would expect from such an excellent product.

Probably the singularly most powerful – yet least used – facility of Protext is its Mailmerge facility. In simple terms it is just like any other mailmerge – taking names, addresses and what have you, from a database and incorporating them at the appropriate points of a letter. Protext Mailmerge is a complete language unto itself which warrants a review on its own merits. Suffice to say for now that Protext Filer was written almost entirely using this facility.

At about this point, you may be wondering about the spell checker. Well, I always leave the best until last. In its simplest form it justs checks a document and throws out the words it does not understand. At the end of a check, Protext goes through the words and asks if you want it to: add the word to its extended dictionary, ignore it, correct it or even take a guess at the correct spelling.

The spelling checker is very fast too, using the slowest option – with the dictionaries on floppy disk – this whole article can be checked in under two minutes. Use of a RAM drive speeds this up to a point where spell checking as you type becomes a reality.

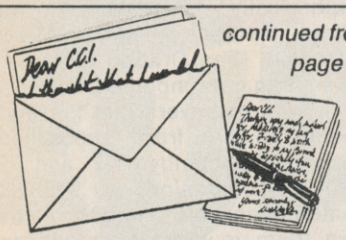
As a matter of interest – both spell checkers include two options to help out with those awkward crossword clue – Anagram and Findw. Anagram takes a given pattern of letters and searches the dictionaries for the same letters in a different order – the word you want. Findw on the other hand takes a given pattern, which includes wildcards and tries to find matching words. You could use this when you have 8 letters of a 11 letter clue – or in my case 3 letters of a 4 letter one.

In this review I have only just scratched the surface of Protext – there just is not the space – the real joy comes only from using it. I believe it is the best British PC word processor currently available at the price. When compared directly to say, Word Perfect it does seem to lose a lot – like the thesaurus – but bear in mind the difference in cost.

Besides which, Protext is nothing like as clumsy as WP or the everlasting Wordstar. Even so if you grew up with Wordstar, Protext can offer a simple Wordstar emulation. And if you use Protext on the PC at work you can even transfer your text straight on to your Amiga at home, because Protext is even available for that. So now you can have your cake and eat it. The real icing is that Protext is British – not that I am just being nationalistic – I feel rather weary when American spelling checkers tell me to spell colour without the u.

M.S.

Price: £99.95 (or £7.95 demo version)
Media: 5.25" or 3.5"
Minimum configuration: Commodore PC XT or AT clones with 512k.
Contact: Arnor, 611 Lincoln Road, Peterborough, PE1 3HA.



continued from page 37

Dear CCI,

I would like to thank you 1,000,000 times for publishing my classified ads.

I still haven't seen it myself (as it takes what feels like a light year for your mag to reach S.A.) but I already had a reply from France!!!

This simply proves to me that CCI is the best available 64-Mag on the market.

Well, that's it for now...Thanks again...

Bye Bye,

G.E.Meyer, South Africa

P.S. How about convincing Andy Moss to give us a map of "Maniac Mansion", I've been at it even longer than it takes my newsagent to get me a copy of CCI.

Dear G.E.Meyer,

Wow! We've never been thanked a million times before, especially not for a classified as! CCI is probably now the only international magazine that continues to offer its readers free classified advertising to let them get in contact with other readers around the globe. We like the idea of acting as an international mailbox and making 'one country speak to another'. We hope that everyone all over the world will take the chance of using our pages to make their wants and superfluous computer stuff available, though sometimes we can't print too many as space is limited – and we don't want any but genuine swap ads. No pirates here please! This letter came to us from South Africa and so we hope that CCI will not only help international relations but better relations between the races in South Africa, in that unhappy country between white and black. And help show those, at least who carry on that abominable policy called "apartheid" that in the computer world at least we are all equal and the colour of a person's skin should not be a reason for depriving him of hus rights, exploiting him or even murdering him, as happens there.

Maniac Mansion? That's not another name for a country that does terrible things to its own citizens, is it? Whatever it is, we'll pass on your request to Andy Moss.

Dear CCI,

Reading an article in your magazine back in August about game books by Bill Donald, which I found very interesting.

I did purchase Flight Simulator Co-Pilot, and was wondering if I could obtain a list of all books available for these type of games?

Hoping to hear from you soon as possible.

Yours faithfully,

D.P.Bowes, London

Dear D.P.Bowes,

Unfortunately we do not have a list of Flight Sim books, other than those we reviewed. However if you want to find out more about books that have been written about the famous Flight Simulator, we suggest you write to Sublogic's gorgeous PR lady Deborah Israel, C/o Sublogic Inc, 35 Picadilly Suite, 101-110, London W1V 9PB (Tel:439-8985)

The Commodore Care Manual

TAB Books Inc.

This book is aimed not at the expert but at the average user. It describes a great many techniques on how to test the component parts of the C64 and C128 systems in a reasonably simple manner. The primary function of the book is to help you diagnosing various problems and maybe even fixing them.

The basis of the book is a program listing and the book progresses through the program describing what each part of the program is designed to do and at the same time that part of the system is also described in detail. The chapter headings are as follows:

1. Getting started
2. The system unit/keyboard
3. The monitor
4. The printer
5. The cassette drive
6. The disk drive
7. The serial communication interface
8. Post repair test and burn-in
9. Writing diagnosis for other peripherals

As you can see the subjects are fairly broad, but they are not covered too deeply. No attempt has been made to get right down to component level replacement, quite rightly the book's cure for this level of repair is to visit the repair shop.

The style of the book is a very good 'top down' system, and for once it does follow a nice logical approach to a problem. Very heavy use is made of the program that is listed in the book, so it is vital that the time is taken to type this program when you have a working system! There are disks of the program available according to the last page in the book. Probably the distributors will be able to supply the disks as well.

The most outstanding feature of the book is the amount of good common sense that is printed in it. This is a welcome change from some of the other books of the same type! I always have grave doubts of the effectiveness of this type of book, but I think that this book CAN help almost anyone that hits a problem with the computer. It will be especially useful for isolating the very silly 'finger problems' that can cause utter panic when they crop up.

Assuming that you are a fairly competent programmer, the section on writing test programs for other devices is very good, and sets out some very basic rules to follow that will help you integrate your modules into the main program.

The Commodore Care manual is very easy to follow, but it is still a 'techie' book and should be treated as such. It is NOT suitable for kids, but Dad might find it useful when the computer won't work! It is the type of book that everyone should read as it does answer a lot of very common problems, that the normal CBM manuals so not even mention.

Now the warnings . . .

MESSING ABOUT INSIDE YOUR COMPUTER WILL DO ONE THING FOR SURE . . . IT WILL VOID ANY WARRANTY.

YOU CAN DO MORE DAMAGE THAN YOU THINK IF YOU FIDDLE! IF IN DOUBT TAKE IT TO A PROFESSIONAL REPAIR SHOP.

UNDER CERTAIN CONDITIONS DANGEROUS VOLTAGES CAN BE EXPOSED WHEN YOU OPEN UP THE CASE (this is particularly true for the C128D that has its power supply built into the case).

ALWAYS UNPLUG THE COMPUTER FROM THE MAINS SUPPLY BEFORE YOU OPEN IT UP.

A.E.

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'TERRY'S UNIVERSE' Beth Meacham (Gollancz SF £11.95)

Terry Carr was, until his death in 1987, the editor of the long established *Best Of The Year* series of anthologies. As Editor he was responsible for the bringing to the notice of the SF-loving public many of the writers who are now leading names in the SF and Fantasy world. After his death many of those writers agreed to donate original stories to a book that would honour his memory and the proceeds of which would contribute towards a fund for his wife, Carol, who had been left in financial difficulties. 'Terry's Universe' is the result. It includes stories never before published in any form by such ?? stars as, among others, Robert Silverberg, Kim Stanley Robinson and Roger Zelazny.

The story by last named is one of the best in the book. 'Deadboy Donner and the Filstone Cup' is written in the style of Damon Runyan. In fact it has distinct similarities to Runyan's 'The Lemon-Drop Kid' but with the pace and the mastery for which Zelazny is famed.

Deadboy Donner is a racing pilot, the Lester Piggot of the sun clipper fraternity, and on his winning the Filstone Cup depends the fate of the narrator of the story, who has invested his all on a wager that Donner will be first past the post. Unfortunately, Donner's immune system was all but destroyed in a solar flare-up in a previous race with the consequences that he had to have himself elected a 'deadboy', a cryogenic (frozen) state out of which he intends to come just before the Cup is due to be run again. He hopes that by that time someone will have discovered a cure for his ills - so does the anonymous narrator. The corkscrew-like twists and turns of the plot make for a story that ranks with the best.

Another absorbing tale is 'The Dragon Line' by Michael Swanwick. This story, too, is reminiscent of another book, this time Sir Thomas Mallory's *Mort d'Arthur*.It also acknowledges a debt to an unpublished manuscript 'Mordred' by the late Anna Quindsland. Merlin who was, of course, the wizard at the court of King Arthur, turns up a couple of hundred years hence, (complete with Saville Row suit), once again to lock horns, metaphorically speaking, with Mordred, Arthur's illegitimate son. Mordred, in 'The Dragon Line', is a coke-sniffing, foul-mouthed, soldier of fortune who discovers that the world is about to die from atmospheric pollution. Reluctantly, he and his travelling companion, a beautiful, seventeen-year old mulatto, named Shikra, team up with Merlin to try and prevent the catastrophe. If it were a movie it would be called a film-noire, full of dark shadows and unseen menace. As a story it's an atmospheric winner.

As in all anthologies there are one or two stories that make one wonder why they were included. Of the twelve I would say 80% are worth reading and as all are 'first time published' the book is worth the price for that alone.

Editor of 'Terry's Universe', Beth Meacham, says in her introduction, that although Terry himself wrote SF short stories and novels it was as an editor that he shone. He was one of the first editors to insist that SF be treated as literature. I think he would have been proud and happy that his name is associated with this book. *D.M*

G.M

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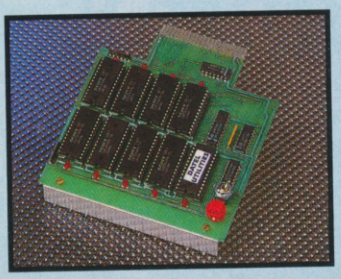

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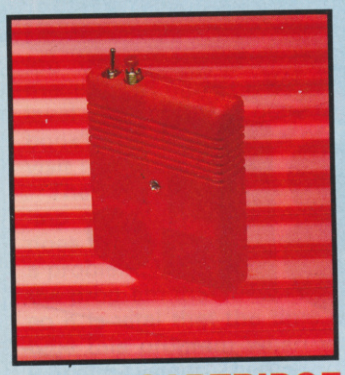

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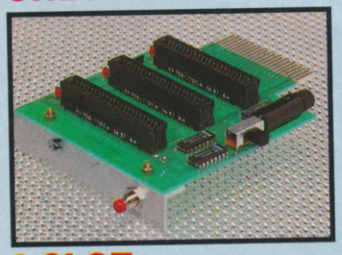

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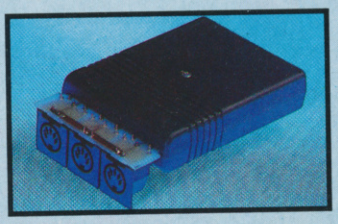

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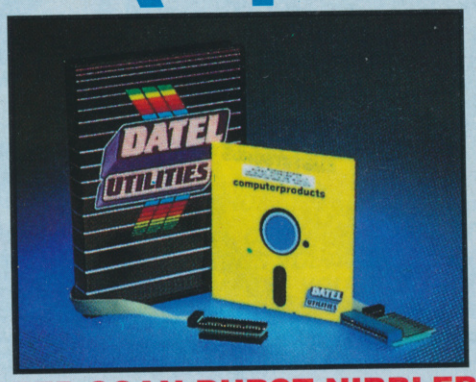

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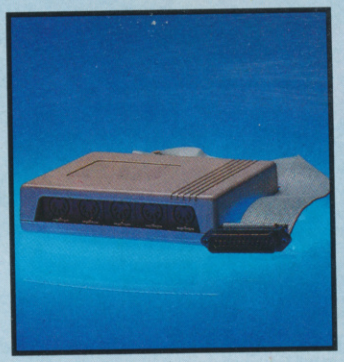

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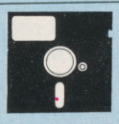

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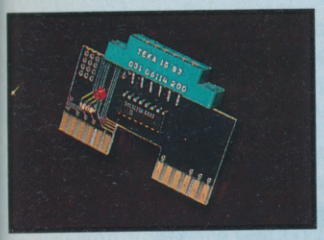

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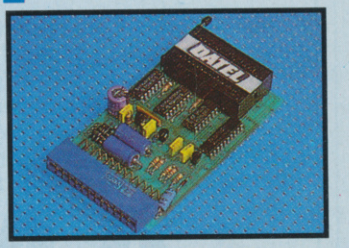

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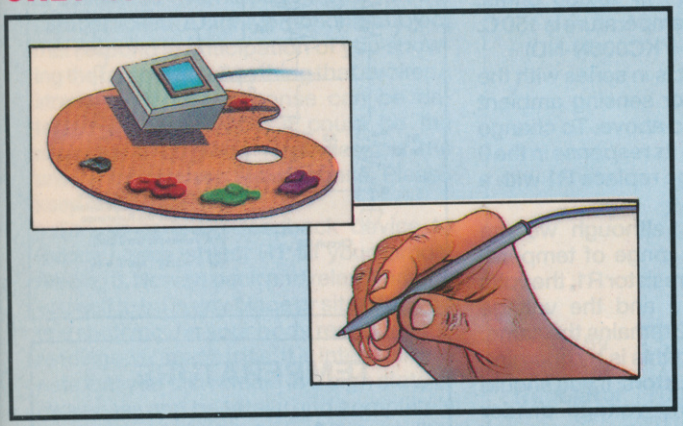

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SERIAL ANALOG TO DIGITAL

Part II of John Iovine's article on the serial interface to the user port and other useful devices.

(All charts are designed by John Iovine and reproduced by Rico Gusman using an expanded Amiga 500)

Light

Cadmium sulfide (CdS) photocells, (Radio-Shack PN# 276-1657) respond to the intensity of light that falls on them. Their resistance is greatest in complete darkness, and decreases in proportion to the light made available. Examine fig 7 circuit C1, this shows the simplest method of connecting the cell into the circuit.

The disadvantage in this particular application is that we are utilizing just one half (128-255) of our possible range 0-255. We easily correct this situation in circuit C2 by adding two resistors that make up a voltage divider. This changes our Ref− from 0 volts to 2.5 volts. Our volts per step also changes (Ref+ minus Ref− - Ref 2.5/255=0.00980392157 volts per step. With circuit C2 we are reading voltages between 2.5 volts (Ref−) and 5 volts (Ref+). This gives us full scale operation with the photocell.

Applications

Now that we have a method of measuring light intensity, what are some applications for this device? If you are a photographer and do your own printing you could use this as an exposure meter for your enlarger. In the high tech end of applications, a spectrophotometer is possible. Spectrographic analysis is a method used by scientists to determine what elements are in unknown compound. This tech was also used to determine the composition of the sun and stars.

Temperature

To measure temperature simply replace the cad. photocell with the heat transducer (thermistor) in circuit C2 (See fig 8). The thermistat (negative temperature coefficient) type, that decreases in resistance as temperature increases. Resistance at 25C (77F) is 10,000 ohms. Maximum operating temperature is 150 C. (302F). (Digi-Key PN # KC006N-ND)

The resistor R1 that is in series with the transducer is good for sensing ambient room temperature and above. To change the scale and improve its response in the 0 to 120 degrees F range replace R1 with a 47 K resistor.

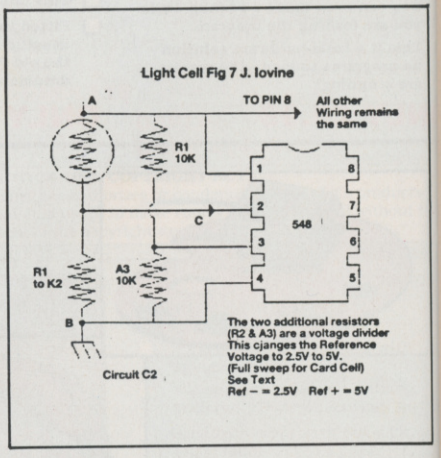
Note at this time, although we are charging the reading range of temperatures by changing the resistor R1, the volts per incremented step and the voltage reading range on pin 2 remains the same. The only way to adjust this is by charging the voltage divider resistors. If you should decide to change the voltage divider make dure to remain within the range detailed in the spec sheet and pin out description.

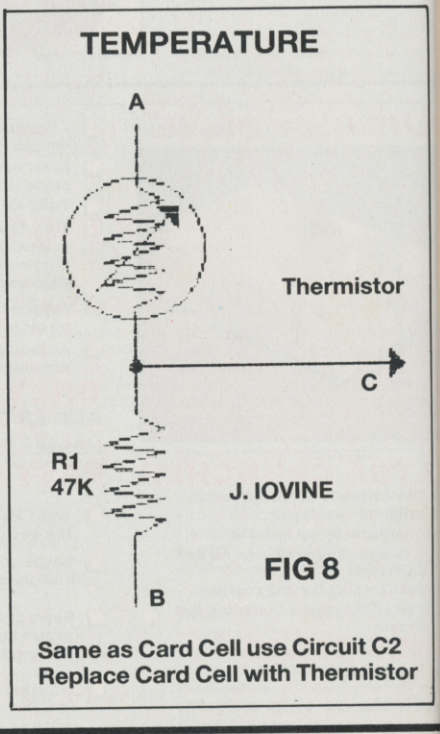
Bio-feedback

The bio-feedback device (fig 10) has two uses. One as a lie-detector, second as a stress level measurement device. The device operates by detcting changes in the galvanic skin resistance of the person connected to the device.

A person's galvanic skin resistance at any particular time is an indicator of their state of arousal. (sic emotional stress and tension level) This is called the "BAse Line Conductance). The base line conductance will vary slightly as you use the bio-feedback device making it necessary to adjust the device occasionaly.

The electrodes are made by soldering a wire to a dime. To use, place a rubber band that fits snugly around the subjects wrist and place the dime electrodes underneath the rubber band.





Set both pots at mid position when beginning, attach both electrodes, use the R1 pot to adjust the reading. When adjusting the R1 you notice a point when a small movement on the pot casuses the reading to jump up or down a good amout. This is the trigger point. Depending upon what application (lie detector / stress level monitor) you have in mind at the time determines where to adjust the R1 pot.

The R2 pot adjusts the gain of the 741 Op-Amp. Normally you won't need to adjust this.

To use as a lie detector adjust R1 till your reading is a little below 255. At this point press the electrodes further against the skin, the reading on the monitor should jump down. (remember to attach the electrodes before you begin adjusting R1.) When you release the pressure on the electrode the reading should rise to approximately what it was before. If this test works you're ready to begin. If not, recheck all your wiring.

When you ask a question that evokes a emotional response the readings will increase. A simple test to perform with a deck of cards is to have your subject pick a card. And you try to ascertain which card was picked using the bio-feedback device. A card player may respond to an Ace or Joker card even though it was not the card he picked. A highly emotional subject mat respond in anticipation of you showing the target card. Anything that evokes a strong emotional response can be detected by this device, it could be the nature of a question regardless of the answer that causes the response. Please keep this in mind.

To use as a bio-feedback device to reduce stress, adjust R1 till your almost reading 0. Now sit back and relax, imagine yourself to be in any place or situation you find soothing. As your body responds the readings will start to rise. It is interesting to note that you can remain in a high state of awareness and be totally and completely relaxed. An electronic form of Zen meditation. With practice your ability to relax quickly will develop and use of the machine will become unnecessary.

You may also reset the device to app. 0 after you top'ed it out and try to rise it again bringing yourself to new levels of relaxation.

The reason you don't set the device to 0 or 255 when adjusting R1 is that you could overcompensate. This could make the reading changes in skin resistance impossible if all the changes are happening below 0 or above 255.

Another point to note is that as your body relaxes its resistance increases. Under stress the resistance will decrease.

Until you become familiar using the device, it can be frustrating to set the pots for a good reading, give yourself a little time to learn.

Applications

Calibration is necessary before using this sensor for any critical operation. One method of calibration is to submerge the sensor first in cold ice water then in boiling hot water marking each readout. The first number recorded is the equivalent of 32 degrees F the second 212 degrees F. The most obvious applications are an electronic thermometer and thermostat control.

Toxic Gas Sensor

The toxic gas sensor responds to a large number of its air borne toxic compounds. Its operation is similar to the thermister in that as the sensor detects compounds, the resistance of the device increases.

Examine fig.9 Pins 2 and 5 connected to a heater coil inside the transducer. The heater coil requires 5 volt at app. 115 ma. This current is beyond what the User port can supply. This mandated the addition of a battery power supply with a 7805 5 V Voltage regulator.

Pins 4 and 6 are internally connected, as are pins 1 and 3. When you make your solder connectors to the sensor you need only connect to one pin of each pair. (see photo)

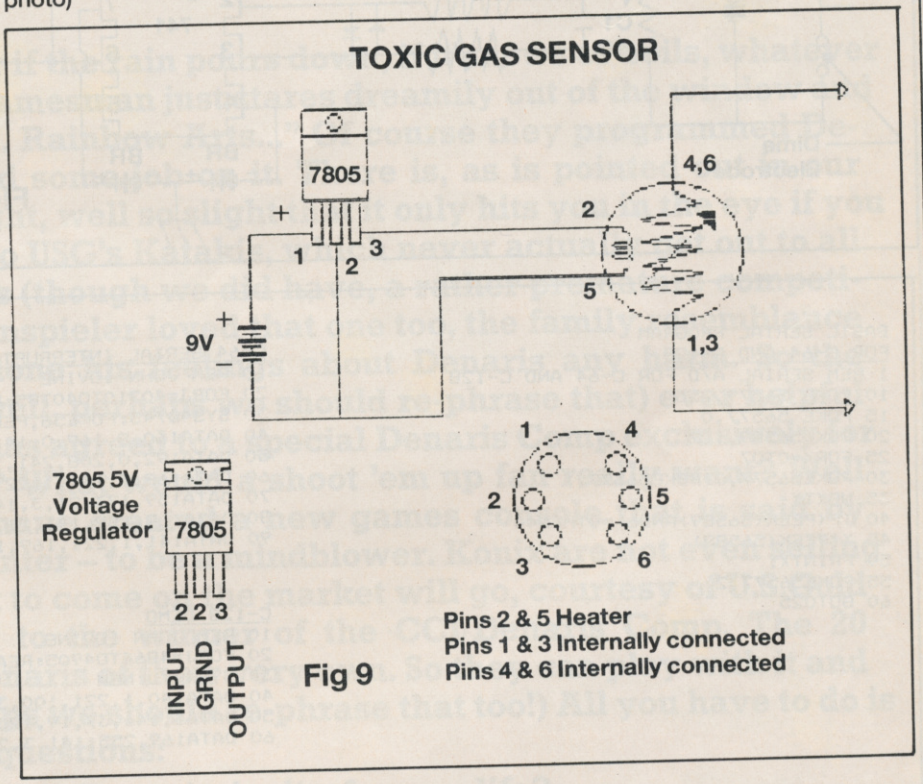


Fig 9

Polarity isn't important for either the heater coil or sensor, any way you connect the wires, the unit will function properly. You may notice that the sensor feels quite warm when operating, don't be alarmed, this is normal and is a result of the internal heating coil.

Change R1 in circuit C2 to a 47 K resistor and connect the circuit as shown in fig 16. Since the sensor has been in storage prior to you receiving it it will require a initial 2 minute warm up period. This warm up period decreases with use. After the warm up period you can test the sensor with a number of household items. I first used a butane gas lighter, by releasing gas by the sensor (unlit), the sensor reacted immediately jumping from a base line of 0 to 255. By breathjing on the unit it will detct the carbon dioxide. You can test and experiment wit other items such as cleaning fluids.

Applications

You can use the toxic gas sensor for an automatic ventilator control or gas leak detector and alarm.

Applications

The bio-feedback device, as stated before can be used as a lie-detector and stress management device. More than this, it should be considered an exercise in phsiological measurement. You are not limited to this device, other devices such as EKG's and EEG's can be interfaced to the computer also.

60 Hz Interupt Vector

Commodore computers use one of the 6526 timers to issue an interrupt every 1/60 of a second. This interrupt routine that follows scans the keyboard to see if a key is pressed, updates the real time clock and performs a number of housekeeping functions. Our interest is not in the routine, but in utilizing the interrupt procedure for our own benefit.

A simple explanation of what happens when an interrupt is generated is as follows. When the micro-processor receives an interupt signal the program instruction that is currently being perfomed is finished. The address of the next instruction is stored, then the program is directed into the interupt routine. Upon completion of the interupt routine the address stored

continued from page 45

is pulled off and our program picks up exactly where it left off.

This process happens continuously and transparently in the background of basic. Our reason for bringing this up is to utilize this routine by adding our own serial A/D program to it. By doing so our program will be executed 60 times a second and is completely transparent to any program lying in basic. We can accomplish this by changing a vector in the interupt routine, (A vector is an address that directs the program to its next instruction) to point to our program before continuing to the standard interrupt routine.

Demo Interrupt

To gain an appreciation of what we are doing I've written a demo program. This program will transfer one of the computer's registers, the Y-Reg into the user port. By connecting our LED interface from part I we can examine the operation of the register as basic is running. This program must be written in Machine Language so I've written a basic loader for it. Save the program before you run because it erases itself from basic. The program displays and updates the Y-Reg 60 times a second. Observe what happens as you type in a program, run a program or load from a disk.

A/D interrupt

These programs read the A/D chip 60 times a second and places the information in memory location 255. All you need to do is peek the location for the current value, the basic program we used before will not be needed when using this Machine Language version.

After you have typed in and saved the program, run it, and type in this line.

10 X=PEEK(255):PRINT X:GOTO 10

This one line will print serial A/D conversion. The program is not affected by the Run/Stop key, but a Run/Stop and Restore will reset the vector. To reinitiate the program, Sys (the number in the program).

J.I.

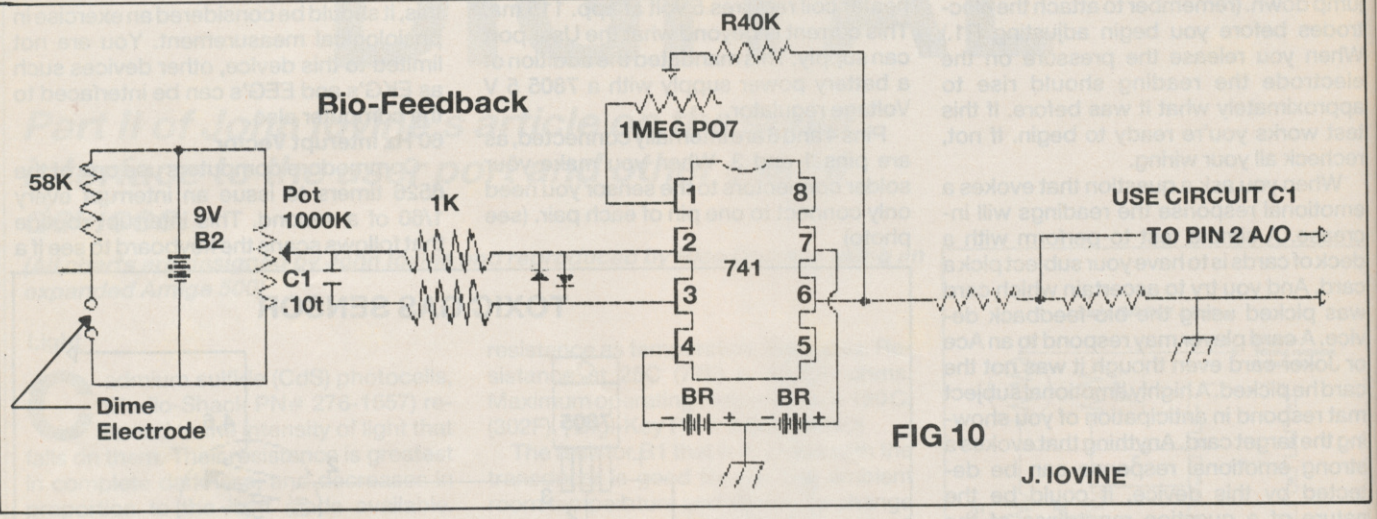


FIG 10

J. IOVINE

```
BASIC SERIAL PROGRAM
FOR C-64 AND C-128
1 REM SERIAL A/D FOR C-64 AND C-128
10 POKE 56579,255
15 POKE 56577,0
20 POKE56589,127
25 FORX=0TO7
30 POKE56577,0:POKE56577,1
35 NEXTX
40 IF(PEEK(56589)AND6)=0THEN40
45 X=PEEK(56588)
50 PRINTX;
55 POKE56577,2
60 GOTO25
```

```
C-64 SERIAL INTERRUPT ROUTINE
10 REM JOHN IOVINE
20 FORJ=40710TO40785:READX:POKEJ,X:NEXT
30 SYS40743:POKE56,PEEK(56)+1NEW
40 DATA160,8,169,0,141,1,221,169,1,141,1,221,136
50 DATA192,0,208,241,173,13,221,173,12,221,133,255
60 DATA169,2,161,1,221,108,79,159,173,20,3,141,79
70 DATA159,173,21,3,141,80,159,120,169,6,141,20,3
80 DATA169,159,141,21,3,169,255,141,3,221,169,0
90 DATA141,1,221,169,127,141,12,221,88,96,0,255,74
```

```
C-128 DEMO
10 REM JOHN IOVINE
20 FORJ=4864TO4905:READX:POKEJ,X:NEXT
30 SYS4870:NEW
40 DATA140,1,221,100,36,19,173,20,3,141,36,19,173,21
50 DATA3,141,37,19,120,169,0,141,20,3,169,19,141,21,3
60 DATA169,255,141,3,221,88,96,255,21,255
```

```
C-128 SERIAL INTERRUPT ROUTINE
100 REM JOHN IOVINE
120 FORJ=4864TO4937:READX:POKEJ,X:NEXT
130 SYS4897:NEW
150 DATA160,8,169,0,141,1,221,169,1,141,1,221,136
160 DATA192,0,208,241,173,13,221,173,12,221,133,255
170 DATA169,2,141,1,221,108,160,19,173,20,3,141,160
180 DATA19,173,21,3,141,161,19,120,169,0,141,20,3
190 DATA169,19,141,21,3,169,255,141,3,221,169,0,141
200 DATA1,221,169,127,141,13,221,88,96,0
```

```
C-64 DEMO
10 REM J.IOVINE
20 FORJ=40710TO40751:READX:POKEJ,X:NEXT
30 SYS40718:POKE56,PEEK(56)+1:NEW
40 DATA140,1,221,234,108,44,159,234,173,20,3,141,44
50 DATA159,173,21,3,141,45,159,120,169,6,141,20,3
60 DATA 169,159,141,21,3,169,255,141,3,221,88,96,49,234,234,0
```

DENARIS COMPETITION

What Does a Shoot 'em Upper Want?

When Tony ('Enthusiasm? I don't know the meaning of the word!') Horgan says a game is what no shoot 'em up addict ought to be without, you better believe it! At the moment, stars shine out of his little pink eyes at the mere mention of U.S.Gold's latest blast 'em away Denaris (or could it be U.S.G.'s glam P.R. Maam, Delicious Danielle that is having the effect?). It is on the Amiga and, says the bedazzled Horg, almost as good on the 64!

If the sun comes out or if the rain pours down, if it snows or boils, whatever the weather, CCI's top gamesman just stares dreamily out of the window and mutters "Rainbow Arts... Rainbow Arts..." Of course they programmed Denaris and apparently did some job on it. There is, as is pointed out in our review this month, a slight, well so slight that it only hits you in the eye if you look at it, resemblance to USG's Katakis, which never actually got out to all you hot shoot 'em uppers (though we did have, a rather premature competition!) But as Tony Horganspieler loved that one too, the family resemblance doesn't seem to have done his feelings about Denaris any harm. So the ever-willing Danielle (well, perhaps we should re-phrase that) ever helpful and generous Danielle has agreed to a special Denaris Comp exclusively for CCI readers. The prize? What would a shoot 'em up fan really want? Well Konix of joystix fame, have created a new games console that is said by everyone – even Jeff Minter – to be a mindblower. Konix are not even selling it yet but one of the first to come on the market will go, courtesy of U.S.Gold and Delicious Danielle to the winner of the CCI/Denaris Comp. The 20 runners up will get a Denaris of their very own. So they can play with it and think of Danielle (perhaps we should re-phrase that too!) All you have to do is answer the following questions:

1. What was the name of Denaris in its former life?
2. What is the setting for the first level of the game?
3. Name the original horizontally scrolling shoot 'em up that had you rescuing humanoids from alien invaders on a mountainous planet surface.
4. Name another Rainbow Arts' game that was the subject of some copyright controversy.
5. Lasers feature heavily in Denaris; what do the letters LASER stand for?

Answers on a postcard by May 15th please to CCI/Denaris Comp. 40 Bowling Green Lane, London EC1R ONE

Do I really smell that bad? Is my appearance so repulsive and my personality so obnoxious that you, my beloved readers, fans, disciples, have disowned me? It seems that way, going on the amount of mail I've been receiving recently. Yes, I know you've been busy trying out all those tips and pokes from your fellow readers, but how about contributing yourself? I want to know how YOU got past that level four mothership, beat the evil ninja at his own game and escaped the maze of death, whether you poked it, mapped it or just played fair, and I want know now! Oblige and I promise I'll never wear the same pair of underpants for a year ever again. Now that's what I call a deal!

C16
Sorry about the ommisions in the last issue, our artist had just heard some good news and got a bit free with his scalpel. We've brought him back down to Earth now, so you find the corrections below (presuming he doesn't get another call from Mr. Spielberg (He's claiming he's to star as Al Betross in a movie called 'The Ancient Marinade'. Sounds a bit fishy to me.)

Jet Set Willy
Infinite lives are yours via the monitor:
G 2A00

Commando
Another never-ending supply of lives:
G 1000

Gun Law
Infinite lives just for a change:
G 1018

Terra Cognita
G 2000
By the way, that gives you infinite lives.

Arthur Noid
G 2000
or
G 2000

Reach for the Sky
Load the game and press RUN/STOP and RESET, and stop the tape at the same time. Now type:
G 014D
Press play on the tape and when it stops again, press RUN/STOP and RESET once more before typing:
G 2000

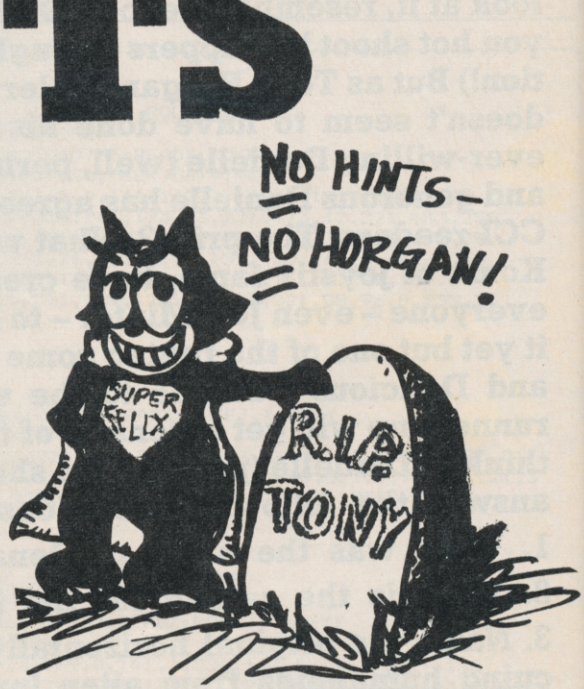
HORGAN'S HINTS

64

Empire Strikes Back
Since I published the cheat mode for the Amiga version I've had a number of requests for a 64 poke, so thanks to Robert Troughton, here it is. Reset the game when you see the Empire logo (the one from the film) and enter:
POKE 37048,165:SYS 32704

Hawkeye
Here's another from Mr. Troughton, this time for Thalamus' sci-fi Green Beret playalike. Reset anywhere in the game and enter these pokes:
POKE 7468,173
POKE 6105,189
SYS 23558

Horgan's Hints
40 Bowling Green Lane
London
EC1R 0NE
Tony Horgan



OK then, so you've seen the light and devised a sackful of cunning plans to help distressed gamers, but you can't for the life of you remember the address to send them to. Calm down, dear friend, for below you will find the answer to all your problems.

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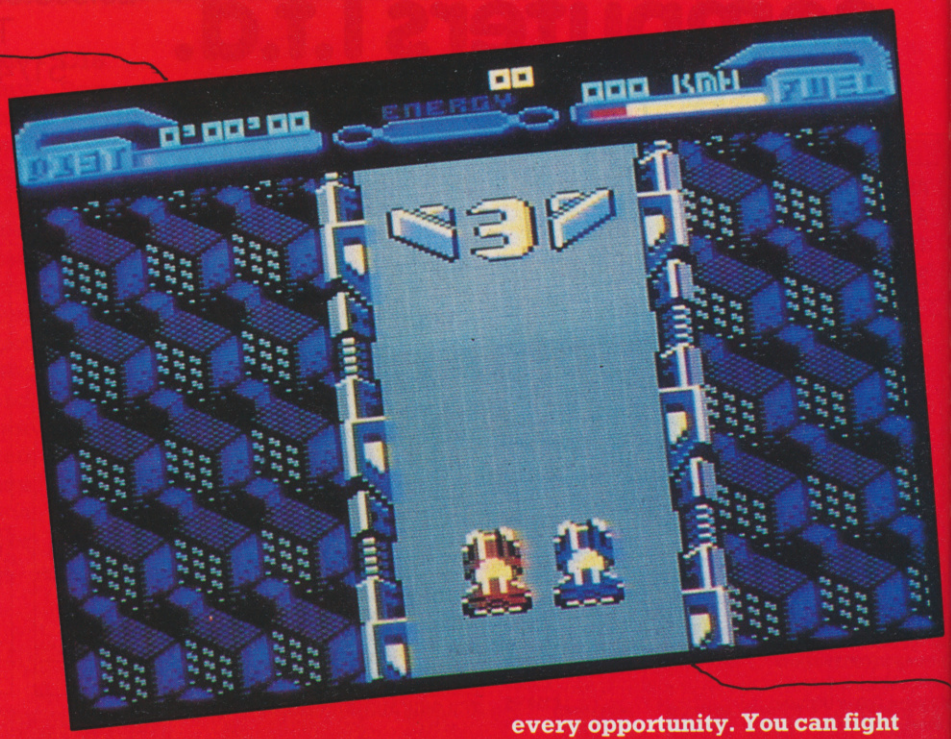
LED Storm

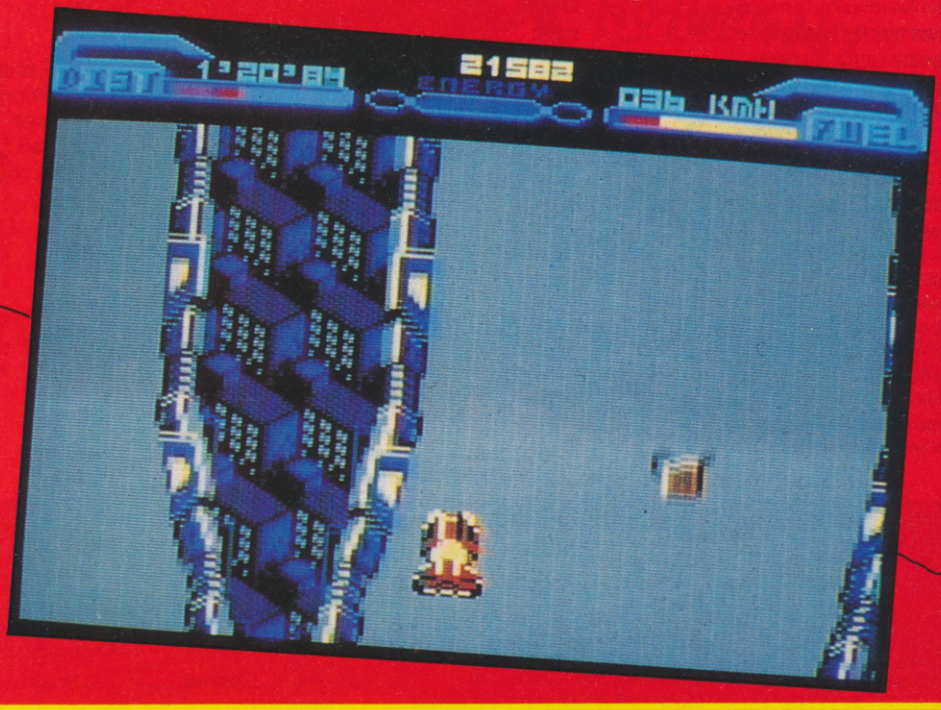
US Gold



The bulk of Capcom's recent arcade machines have tended to go unoticed among the expensive hydraulic gimmicks of the likes of Taito and Sega. LED Storm is one of the lesser-known coin-ops, which looks as if it could slip into similar obscurity in some of its home computer formats.

It's a futuristic car race, but for a change there's no road blasting involved. The first of nine tracks is set on a decaying flyover high above a city. Fellow speed-demons hare along the track, running into you at every opportunity. You can fight back with the help of your miraculous turbo-boost that sends you leaping skywards; position yourself carefully and you can splat your opponents on the way down. Frequent gaps in the road are another major problem. Ramps are provided to get you across the breaks, preceeded by a couple of officials frantically signalling you to stop. Sadly for them, the only course of action is to plough through them and over the ramp!

Bonuses pop up all over the place. Pods giving bonus points, energy and a temporary shield are dropped



"Fellow speed-demons hare along the track, running into you at every opportunity."

off by a flying saucer, cans of fuel are found on the road, energy pods float overhead, and ther's even a pot of Bovril to be had in there somewhere! To even the odd's, s number of different types of computer controlled cars obstruct and attack you. Crates and oil slicks on the road must be avoided, and clinging frogs need a thorough shaking-off.

Level one has some effective parallax scrolling, but once you get past the first checkpoint the graphics begin to deteriorate. The forest of the second level is a mess of muddy brown patches with a few canyons here and there. Further stages are just repeats of these , but for some altered colour schemes and layouts. I suppose this is the price to pay for a nine-level single-load game. Even so, the graphics could have been drawn better.

Apart from the parallax scrolling, ther's nothing particularly interesting or exciting about the game. The mixture of Spy Hunter and Up 'n' Down game styles is old hat, and this is its main drawback.

Graphics: 56%
Sound: 69%
Playability: 58%
Overall: 57%
Rating: IFFY
Price: £9.99 (cass)
£14.99 (disk)

AMIGA

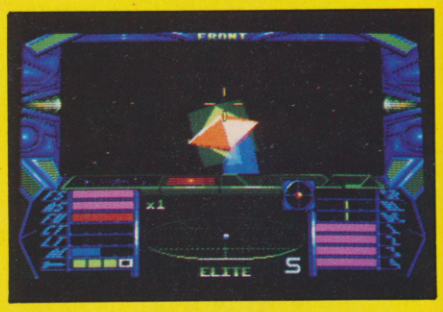
The Amiga version out-does the 64 game in both graphics and sound as you would expect. While the graphics are nothing special, at least you can see more detail, unlike the 64 version. However, the

"To even the odds, a number of different types of computer controlled cars obstruct and attack you."

graphics are let down by a little by the very jolty horizontal scrolling. The Amiga version's strong point is the brilliant soundtrack, supplied by the boys responsible for the Bionic Commando's music. Although the gameplay is really no different from the 64, the sound and graphics give you far more of an incentive to progress; and for that reason it's more fun to play.

Graphics: 62%
Sound: 90%
Playability: 66%
Value: 63%
Rating: CRISP
Price: £19.99

Firebird



A long time ago, in a galaxy far away... It had been one of those days. The Galcop had just fined me 5000 credits for trading narcotics with a civilised nation, and the hyperdrive motors were mumbling trouble again. So when I left the Coriolis station at Lave - cargo hold brimming with computers - I had a Monday morning sort of feeling. Maybe, I thought, those felines over at Reorte would give me a good price - if I made it past the local terrorists.

I hit the hyperdrive for the third time that day and the engines howled into life. Ten seconds later I felt myself thrust into witch space. It was an uncomfortable feeling, rather like floating in a bath or warm slime -almost, but not quite, pleasant. Five years spent swanning around the galaxy and I still wasn't used to it. The drives slowed to a halt and the radar confirmed my arrival in Reorte's system. There was always a feeling of relief on dropping out of witch space, it was the sort of place where one could get hijacked by the ruthless insectiod Thargoids, and just recently there had been a spate of such attacks.

Lining by Cobra with the planet -now just a distant smudge - I hit the local space jump. The ship accelerated in a instant to a little under light speed and jerked to a sudden halt. Pirates! A quick glance at the radar confirmed my suspicion. Three of them, two Kraits and a Mamba coming in fast. This is going to be fun, I thought as I watched the first trying to duck a Lance-Ferman hunt and kill missile. No ECM, no chance - the pathetic creature got his reward right up his machine's exhaust port. Just as the computers registered my kill with the Galcop, the second and third vanished amongst the rain of my pulse lasers. Rewarded by a measily 1.4 credits for the three, I reckoned on not trying to make it as a bounty hunter.

Some time later I started my approach to the station at Reorte. As I prepared for landing, I was confident of a good profit, until the sound of laser fire echoed off the bow. The Cobra's aft shields buckled under fire from the unknown assailant. I hit the retros, and the craft shot back at frightening pace, just far enough to spot - a Thargoid. Only these foul creatures would ever dare attack a trader so close to a space station. I launched a missile -too late the Thargoid had ECM - all I could do was wait for the inevitable and join the struggle in another life...

This is the story of a trader trying to become a member of the Elite. Reckoned to be the best space game ever devised for the 8 bit machines, it all started on the BBC Micro some six

years ago, devised by two university students Ian Bell and David Braben, who later went on to write Zarch on the Archimedes more recently renamed Virus when it appeared in 16 bit form. In those days, the game was the first to feature moving 3D graphics - albeit wireframe - and a real seat of the pants feeling.

If you have never come across Elite before, all this must be leaving you feeling a little confused. You take on the part of a simple soul, fresh out of pilot training. Equipped with nothing more than a clapped out Cobra MKIII spaceship. From here you must trek into the galaxy and by careful interplanetary commerce, enrich yourself, and equip your ship with new weapons. There are over 10,000 planets so you have plenty to choose from.

On the way, you will have to defend yourself against pirates, rogues, thieves and vagabonds and eventually go on missions to save the universe. All of this will set you apart from the usual space flotsam, and you will if you stay alive become one of the most revered space captains - a member of the Order of Elite.

"Trading with planets who will buy such goods can produce great rewards, but they tend to be surrounded by mean pirates"

There are two ways of doing this: legally, by trading in goods like computers, clothing machinery and so on. Or illegally, by the get-rich-quick method of trading in slaves, firearms and narcotics. Criminals are not well like in the galaxy and there is no honour among thieves. Trading with planets who will buy such goods can produce great rewards, but they tend to be surrounded by mean pirates. Some of them Elite traders who have turned to a life of crime. Also, traders who break the law are marked by the Galcop and can find themselves shunned by the law-abiding planets and refused entry to the systems.

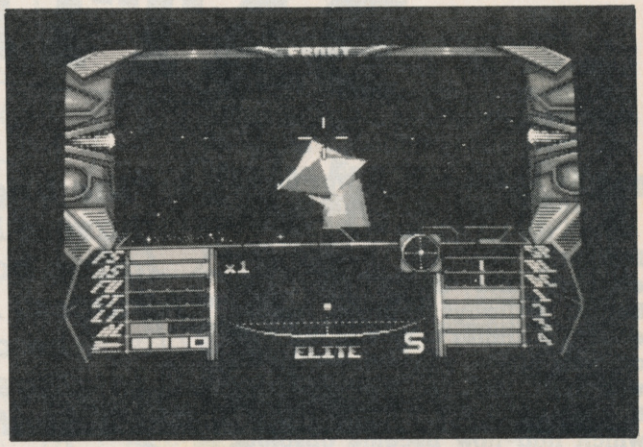
Games like Elite are now almost commonplace, and wireframe 3D is all but unheard of. These days we thrill to the delights of solid 3D graphics in games like Carrier Command and Jez San's superlative, Starglider II. So how well does the conversion of Elite fair against such giants?

The most obvious thing is the solid graphics. Good as the original looked, wireframes on a 16 bit machine cannot be deemed credible. Also, all of the status/trading screens feature some use of graphics. Fans of the original game will no doubt notice this. In addition there are some features, like the Retro thrusters and Cloaking device which never appeared in the original game.

Oddly enough most of the new features do not appear in the supplied instruction manual or key guide either so quite how you operate them is beyond me.

Players of the original will recognise the screen layout at once. The top half of the screen being occupied by the front view, the lower forming the instrument panel and radar screen. The instruments straddling the radar are as follows: front and rear shield power, cabin temperature, laser temperature, fuel gauge, altimeter, missile control, speed, roll, climb, and four power meters. The radar itself takes up most of the lower display.

Here, all objects in the local area appear with the exception of large bodies like planets. The system employed is unusual but well thought out. The radar screen is essentially just an ellipsoid. Dots appear on the screen indicating the positions of objects relative to the ship. If an object is above or below the ship, the radar traces a line above or below the ellipse.



Control, as in the original is by keyboard or joystick, with the mouse a welcome addition. This is to do with the way the game works. Everything in Elite's 3D space has only two degrees of freedom. This means to turn around you have to rotate the ship through 90 degrees and pull back of the joystick - fighter pilots call this a brake turn.

"The experts - I almost made it to Elite, but wore the disk out trying - will find themselves surprised by how hard the new version is".

In play, the beginner Elitist, will find himself bemused by the sheer variety of controls and larger number of ways to die. The experts - I almost made it to Elite, but wore the disk out trying -will find themselves surprised by how hard the new version is. This is a problem; of the first four games I had, I was attacked and killed by Thargoids - the meanest of the mean - in two, before managing to dock once. In my opinion it is too hard. When you do get started, Elite plays quite reasonably, but it looks dated for all of its fancy graphics and new options.

The new version just does not feel like a 16 bit game, more of an excuse to capitalise on the success of its predecessor. Little touches like the Blue Danube played during the docking mode are nice, but don't add a lot. The tendency to crash rather too often is annoying. It even has a cheat mode. Hint: type SARA when prompted for a word, then press * while docked.Try it, even buy it - but if you hate it, do not say I did not warn you.

Sound: 5
Graphics: 5
Playability: 5
Overall: 6
Price: £29.95

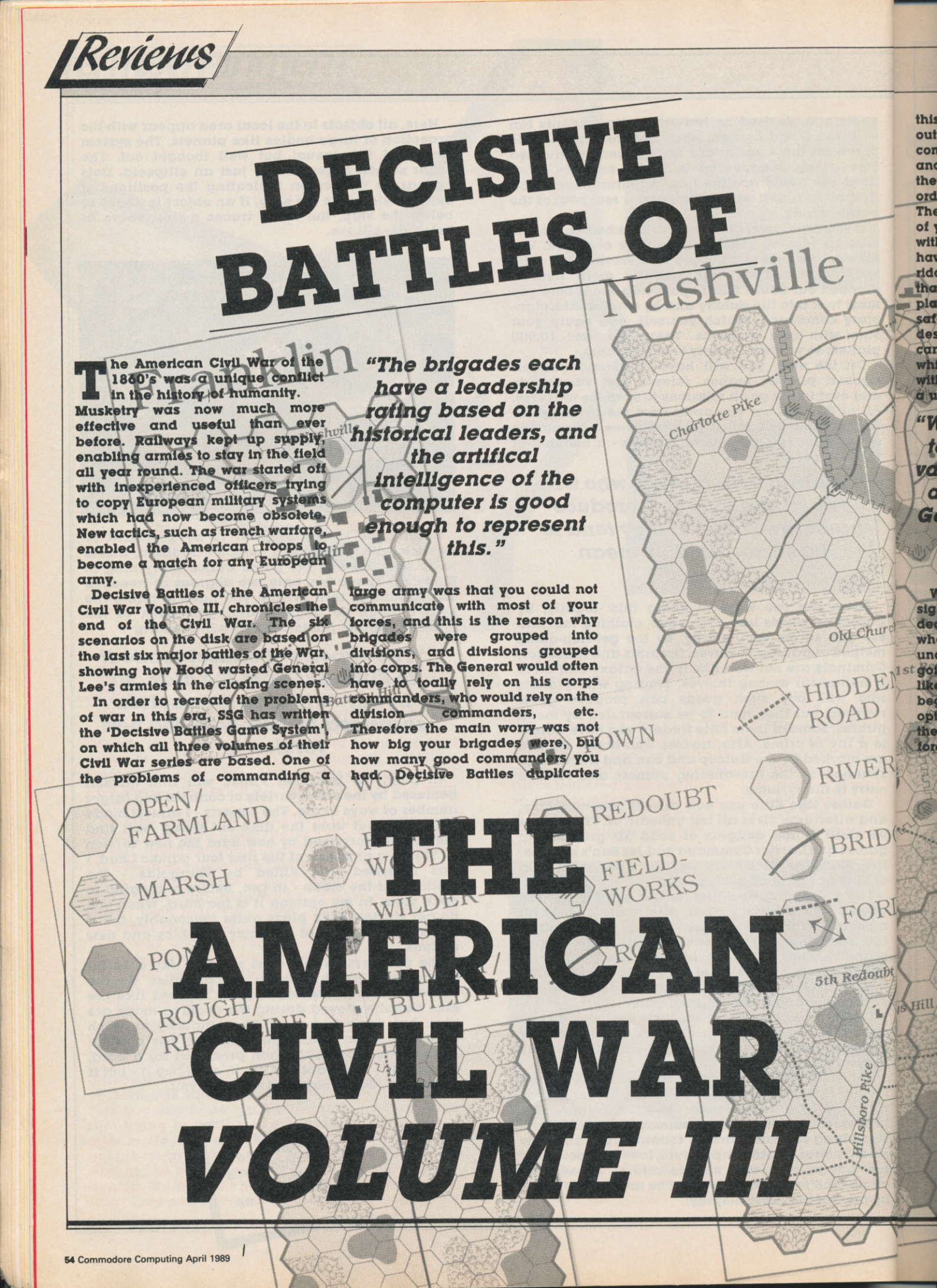
DECISIVE BATTLES OF THE AMERICAN CIVIL WAR VOLUME III

The American Civil War of the 1860's was a unique conflict in the history of humanity. Musketry was now much more effective and useful than ever before. Railways kept up supply, enabling armies to stay in the field all year round. The war started off with inexperienced officers trying to copy European military systems which had now become obsolete. New tactics, such as trench warfare, enabled the American troops to become a match for any European army.

Decisive Battles of the American Civil War Volume III, chronicles the end of the Civil War. The six scenarios on the disk are based on the last six major battles of the War, showing how Hood wasted General Lee's armies in the closing scenes.

In order to recreate the problems of war in this era, SSG has written the 'Decisive Battles Game System', on which all three volumes of their Civil War series are based. One of the problems of commanding a large army was that you could not communicate with most of your forces, and this is the reason why brigades were grouped into divisions, and divisions grouped into corps. The General would often have to toally rely on his corps commanders, who would rely on the division commanders, etc. Therefore the main worry was not how big your brigades were, but how many good commanders you had. Decisive Battles duplicates

"The brigades each have a leadership rating based on the historical leaders, and the artifical intelligence of the computer is good enough to represent this."



this problem very well. It keeps you out of contact with your commanders for most of the time, and you therefore have to hope that they are capable to carrying out the orders that were set yesterday. Therefore the computer moves most of your forces for you. All brigades within a few hexs of your HQ can have their computer set orders overridden by the player, but this means that the HQ has to be in the right place at the right time, yet also safely away from the battle. If it is desired however, a 'radio' option can be set before the game starts, which puts the player in contact with all of his commanders, which is a useful option for the beginner.

"When the profile is set to heroic, the admin value of the main HQ is also reduced, as the General is not there to run the place properly."

When an enemy brigade is sighted, then it is up to the player to decide if it is alone or followed by a whole corps! This leads to a lot of uncertainty of how the battle is going, and of what to do next, just like in real life war. Of course, beginners will set the 'exposed' option before the game starts, so they can see all of the enemy forces.

Decisive Battles allows the General to move his HQ where he wants it, but it also allows the General to set his own publicity profile, ranging from sensible to heroic. The more heroic the profile, the better nearby brigades will actually fight. This profile was achieved in reality by the General actually taking part in a battle, or at least being close. The big problem with that was the fact that battlefields are dangerous places, so the more heroic the profile, the bigger the chance of getting killed. Decisive Battles allows the General (or any of his leaders), to be wounded, killed or captured, which would be a big blow to the campaign.

All these factors combined make Decisive Battles a very exciting and challenging wargame, which is unique because it achieves all the things that only a computer wargame can achieve, which were impossible with normal, 'board and counters' type wargames.

The game package itself is exactly the same as any other SSG game, with a poster size map, comprehensive game manual, two flow-chart cards, disk labels, the master disk. The manual itself scores over the manual of volume 1, as it now includes the historical details of each campaign, with suggestions for changing the historical scenarios.It does read a bit like a programmers note book in places, giving the exact details of how movement, communication, sighting, and combat are resolved, including tables and formaliae.

Included on the disk are the original construction routines, which enables you to change the scenarios by adding, removing or changing brigades. The routines make it possible for your own scenarios to be devised, allowing you to create a map, brigades, and even the game icons, so you can create your own terrain and brigades icons. The routines are very flexible, with proper planning, it should be possible to create any pre-WW1 historical scenario.

Overall, I enjoyed playing Decisive Battles. The only fault I could find was that its movement routines are a bit slow, slowing down the whole game. The manual has also been improved, and sets the strong atmosphere of the game. If you want to suffer the frustrations of Lee or Grant, then buy this wargame.

R.G.

Detail: 85%
Complexity: 80%
Playability: 86%
Overall: 84%

Price: £19.99

Winners of Microprose Red Storm Rising Competition Dec '88

1st WINNER

Lee Smith
Worchester

1st RUNNERS UP

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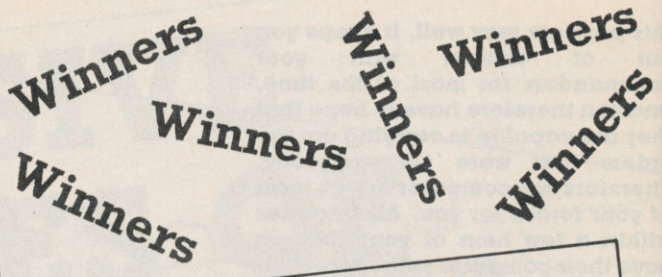

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WINNER

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Lanarkshire

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Co. Down

Master Paul Thomas
Cardiff

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BFPO 36

Richard Walker
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M. Hewson
Birmingham

Francis Hill
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John Pearce
Herts.

P. Capel
Oxford

Roy Gunnar Ovrebo
Norway

R.J. Bartlett
BFPO 17

Winners of Rocket Ranger Competition Jan '89

WINNER

CPL Bunyan
BFPO 20

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Mr R.P. Cooper
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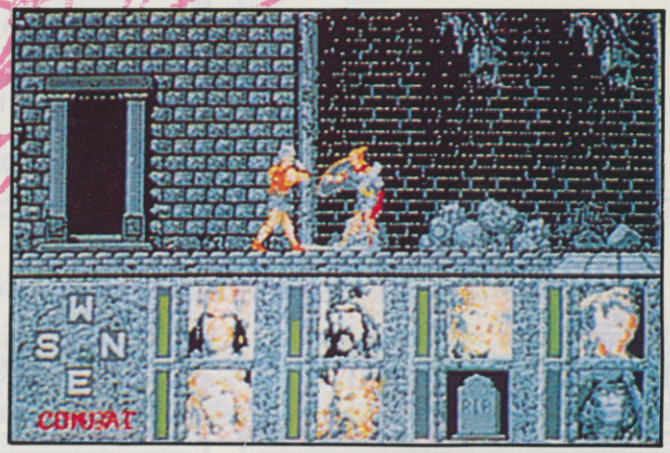
HEROES OF THE LA



Heroes Of The Lance is a computer game that is loosely based around a trilogy of books called "The Dragonlance Chronicles", which were written by Margaret Weiss and Tracy Hickman (male not female as we once erroneously stated!). To date these books have sold over 7 million copies world-wide.

After playing Heroes it is easy to see that this game could emulate the success of the books in the computer games market. The justifications for this are many and varied, but the principal reason is teamwork.

By combining the resources of two of the giants in computer history – namely US Gold, and SSI – then adding the experience of TSR – who market the world's most popular table-top Fantasy Role Playing Game – a new genre of computer game has been born.

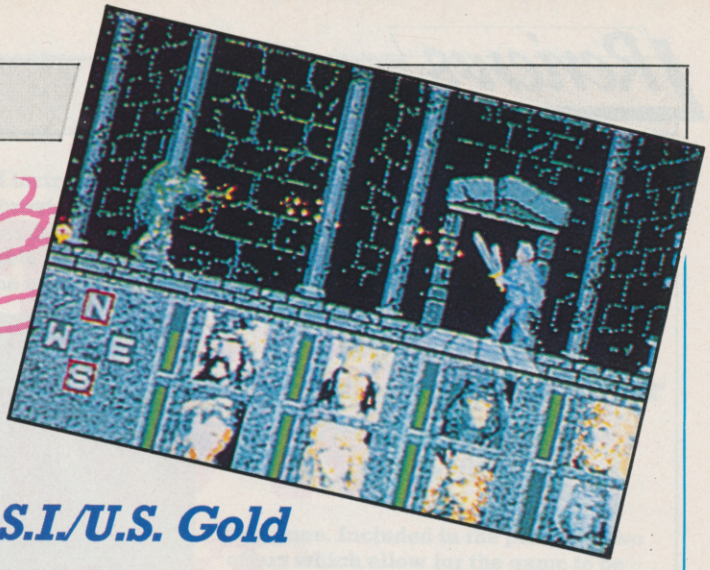
Heroes Of The Lance infuses the excitement of arcade action with the decisiveness of role playing and adds a very small amount of logical adventure awareness in for the bargain. The result is a new breed of game that should appeal to all.

The aim of the game is to guide a team of eight brave adventurers down the deadly dungeon of Xal Tsaroth, so that they obtain the magical Disks of Mishakal. The reason why the Disks have to be obtained is because Takhisis – the evil Queen of Darkness – has spread her power across your homeland by awakening the evil

"Not only is she virtually impossible to kill, but she has a horrible habit of spitting a volatile, viscous acid at anyone who comes within range."

SOF LANCE

S.S.I./U.S. Gold



dragons and creating a new breed of creatures called the Draconians. If these vicious creatures control your world, Takhisis will control the most evil empire in existence.

Only the group under your control can stop her final victory. If they can obtain the Disks and return them to the people, this will spark off a revival in the worship of the old gods, automatically uniting the populace and inciting them to rebel.

Unfortunately the Disks are not just lying in the ruins. They are actively guarded by Takhisis's minions and these include the aforementioned Deraconians, Giant Spiders, Trolls, Spectral Minions, Wraiths, Gully Dwarves and various Humans. Even if your party manages successfully to conquer these vicious creatures – they have to overcome Khisanth, whose only aim in life is to guard the Disks.

Khisanth is in fact a huge, ancient Black Dragon, who can only be killed in a special fashion. Not only is she virtually impossible to kill, but she has a horrible habit of spitting a volatile, viscous acid at anyone who comes within range.

Your eight characters – called Tanis, Raistlin, Flint Fireforge, Sturm Brightblade, Tasslehof Burrfoot, Caramon, Goldmoon and Riverwind – each has a particular skill that benefits the party in one way or another. These skills range from straightforward sword fighting to the ability to cast magical or clerical spells.

Playing the game is very simple indeed. You use a combination of the joystick and keyboard controls to execute your commands. Your party is depicted as one character on the main part of the screen and the joystick is used for moving it in various directions, as well as running, jumping, leaping and of course fighting.

Portraits of your characters are found below the main screen, and they are deemed to be travelling in the order that you arrange them. This is called a "marching order" and is pretty important, as only the leading four characters are allowed to take any actions in a combat situation.

This is where the keyboard comes in. If your on screen character is engaged in combat, it is possible to use the keyboard to get into a special menu – suspending combat in the process. Here you have 11 useful options, which range from the casting of spells to the saving of the game. All you have to do is follow a series of very simple prompts that rapidly take you through several sub menus and then return you to the main screen once again. Once back to the game, any action you may have selected takes place immediately.

The portraits also have another use. They contain green bar graphs which indicate how healthy your character is. If the green lines drop dramatically and turn red, you know that your character is so gravely wounded that it is only one step away from the grave. If they do die, the characters' portraits turn dark grey until they are either brought back to life via magic, or left for dead. In the last instance your character's picture promptly turns into a gravestone with RIP engraved on it.

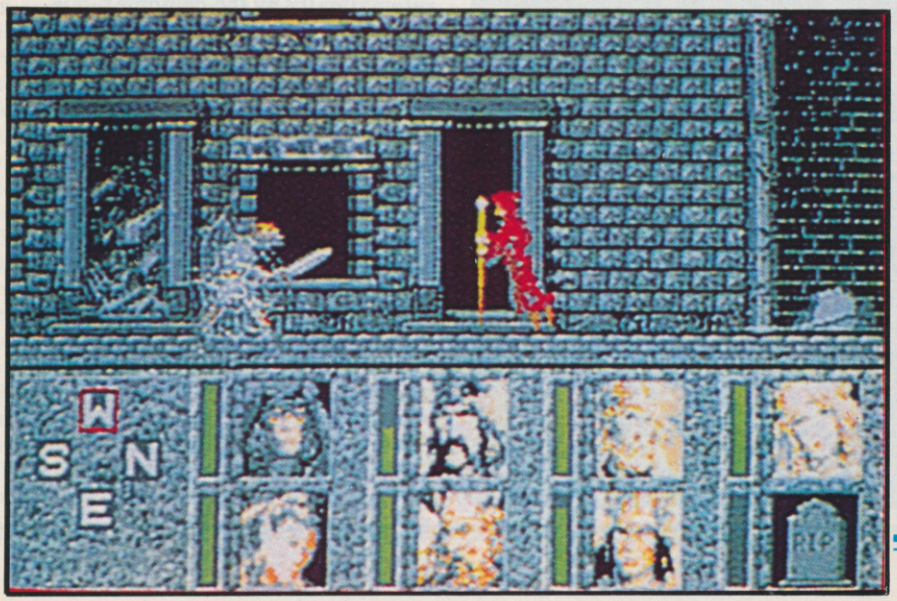
"If the green lines drop dramatically and turn red, you know that your character is so gravely wounded that it is only one step away from the grave."

To the left of your characters' portraits there is a direction finder showing the four points of the compass. This glows red whenever you discover a passage that is accessible and tells you when you are in effective combat range.

The graphics – especially when you enter combat – are excellent. Your characters actually fight using the techniques which their varied weapons demand. Furthermore, when one of your party casts a magic spell, a shower of colours fly from the fingers, the colour of which depends on the spell used at the time. Overall, the scrolling is generally very smooth, although when you initially encounter combatants the screen does tend to jump forward rapidly.

All in all, 'Heroes' is a thoroughly entertaining game, which will challenge a whole range of computer games players, right across the gaming spectrum.

W.



Graphics: 85%
Sound: 80%
Playability: 86%
Rating: AWESOME
Price: £24.99

SENTINEL WORLDS 1

Future Magic

Electronic Arts

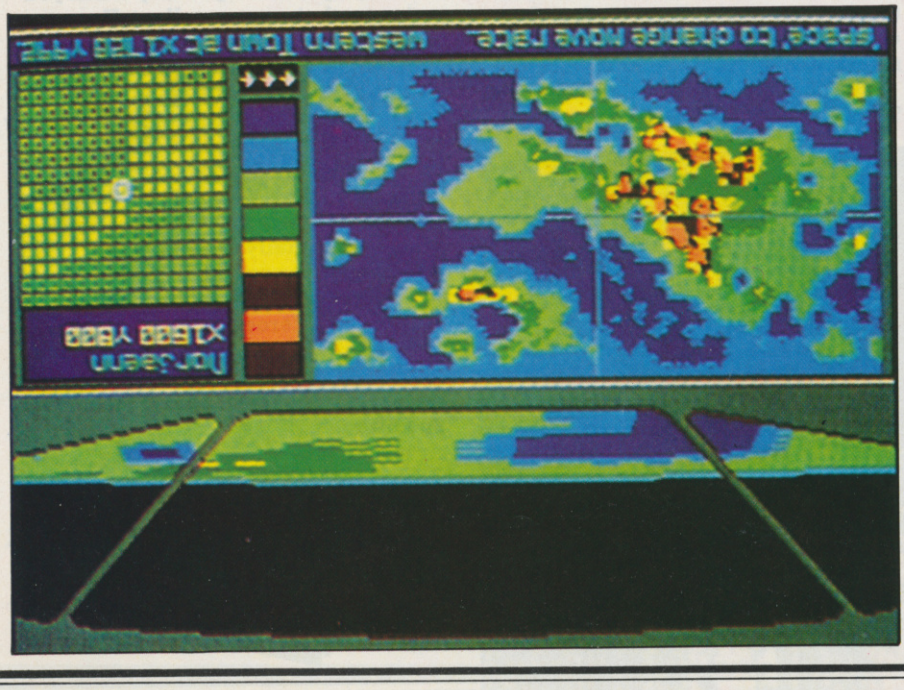
Once in a while a game raises the work of the programmer to a point where it must be considered an art form. in the case of the C64, Elite falls into this category and on the Amiga the choice can be made from sveral contenders. The latest release from Electronic Arts for the PC market has now provided us with a master work for that machine.

Sentinel Worlds 1 – Future Magic is described on the package as a science fiction role playing game, but this does not fo it justic for it is like describing Chess as a simple board game. Sentinel Worlds 1 is a game which cannot be described as falling into any of the common categories but must be left to the individual player to decide in to which he feels it may fall.

The game commences with the selection of your crew of five. Each crew member has a specific task to perform and has the ability to aid in the performance of those tasks. Once selected, and your interceptor spaceship named, you and your crew are placed in cryogenic sleep while being transported to the required system. Our ship, along with a group of others, is to be transported to the Caldorre system where your mission is to defend the cargo liner convoys that are being attacked and destroyed by unknown raiders.

> *"the status is in the form of percentages available for each aspect, engines, laser, shields etc."*

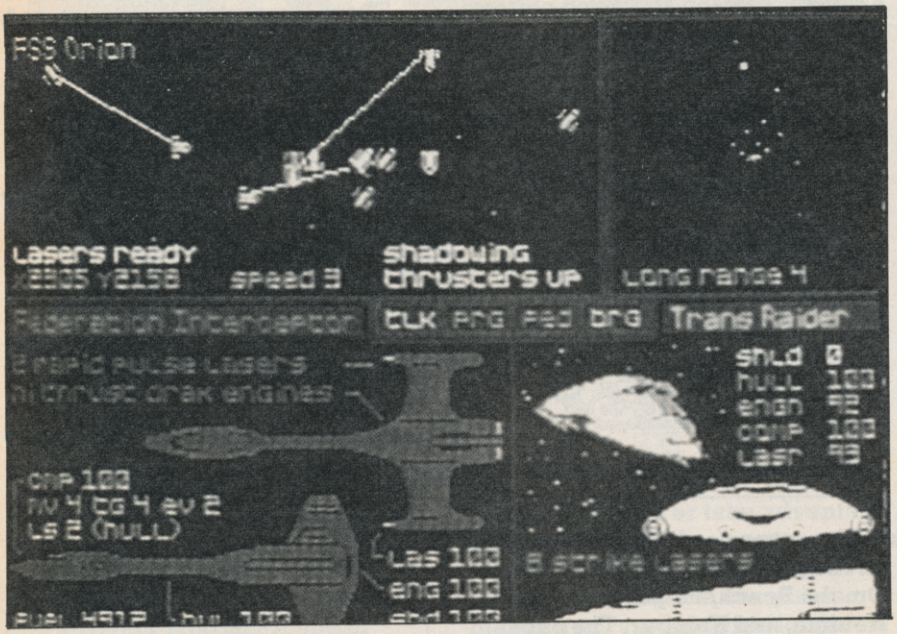
After being dropped from the carrier you are presented with the main command display screen. The screen is basically divided into four parts. The top being split between Short and Long Range Scans of Cadorrian space. It is on the short range scan that battles, between your interceptor and the raider ships will be seen. The bottom half of the screen is split into a status report on your ship and the status of any ship targeted by the laser computer. In both cases, the status is in the form of percentages available for each aspect, engines, laser, shields etc. When the percentages are reduced on your own ship due to battle damage they will be slowly restored to normal as time passes. The status percentages on the targeted ship will reduce as the effects of your lasers are felt. The battles are definitely not of the shoot 'em up variety as the firing of the laser is controlled automatically by the computer. It is your job to get the ship in the right position.



At the centre of the screen is a line of the comands available and these call up other members of the crew for your orders. The four provided are TLK (Talk), PRG (program), FED (Federation Communications) and BRG (Bridge). 'TLK' allows you to communicate with other ships but only those that are currently targeted by the computer. 'PRG' allows you to order the hacking of the ships computer programs in order to improve their performances. 'FED' provides details of Federation orders, convoy orders and advertisements. Finally, 'BRG' allows movement to be initiated in a number of ways depending on where your spaceship is situated.

Care must be taken when hacking the programs, for if your crew are inexperienced in such matters the effectiveness of the program can be reduced rather than increase.

clues, and a keyboard instruction sheet. The manual does not provide very detailed instructions on the equipment and commands available but this to some extent adds to the enjoyment of the game. Included in the pack are two offers which allow for the game to be provided on 3½" disks and an additional clue book which provides maps and locations which need to be visited to complete the game.



"When fighting with an enemy your crew will fire independently but you must target and fire as required, but be warned – no-one has ever returned from a boarding."

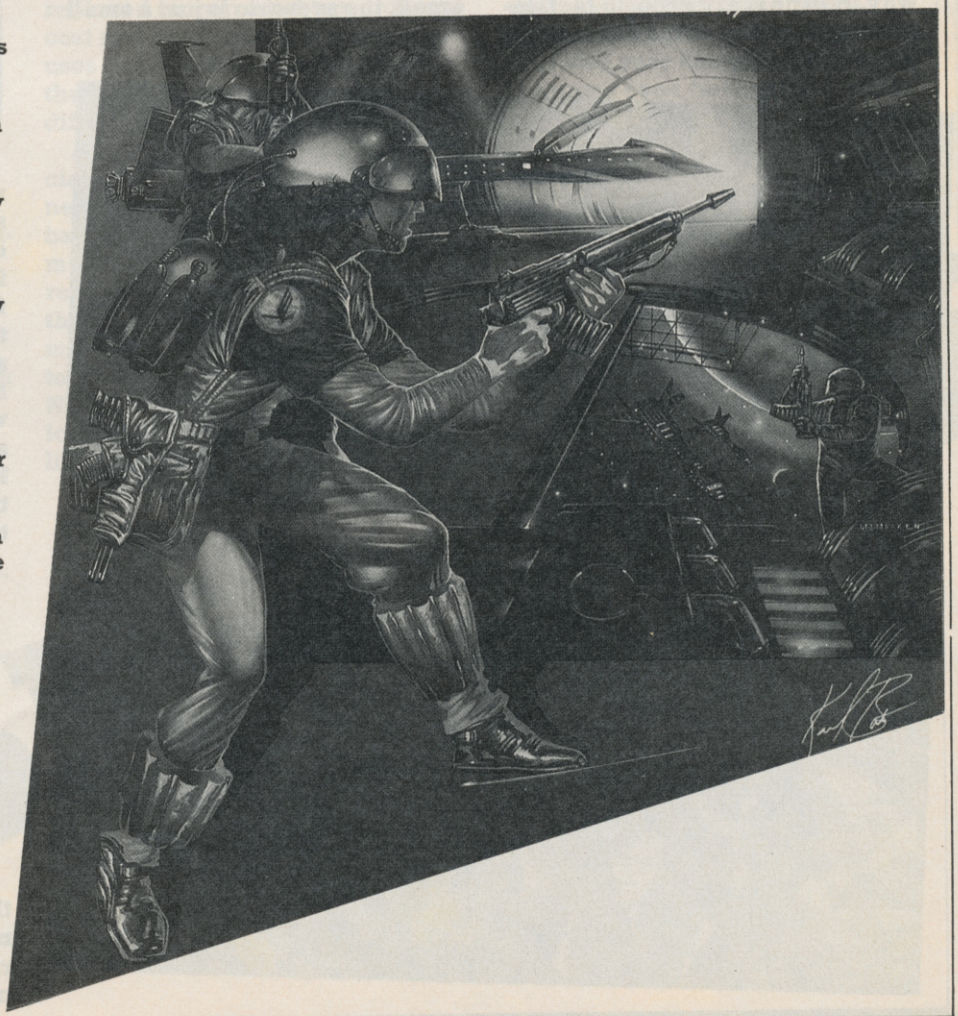
It is impossible to do justice to Sentinel Worlds on paper, its potential can only be realised by actually playing it. The title Sentinel Worlds 1 suggests that this is only the first and that perhaps there is going to be a series, with a game of this quality we can only hope.

L.K.

The movement around the rest of the game commences from your spaceship and depends on what your ship is near when the 'BRG' command is issued. This can be an enemy spaceship or a planet. For an enemy spaceship a boarding party must be selected and equipped, in addition your interceptor must be manoeuvered to the side of the enemy vessel. The leader of the boarding party will be equipped with a special viewer which will show the positions of both your own crew and the enemy. This device then provides the screen display when on board the enemy ship. The top half of the screen consists of your view plus the positions of each individual. The bottom half of the screen is split into three showing a view of the immediate area, messages from crew or enemy and the communications channel which will give you details of the enemy. Two additional displays can be obtained giving an indoor long range scan and battle status information. The long range scan consists of a map showing your positions within the spaceship. When fighting with an enemy your crew will fire independently but you must target and fire as required, but be warned, no-one has ever returned from a boarding.

The complexity of the game continues with clues that you are instructed to read from one of the supplied booklets. These help you with the mission but should not be read indiscriminately or this will impair your enjoyment of the game.

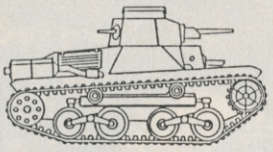
The package comes on two 5¼" disks with two booklets, a manual and the



Typhoon of Steel is the latest wargame to come from that stable, SSI. The sequel to Panzer Strike, the game is set in the Second World War, and covers three theatres: Pacific, with the Americans against the Japanese; Asia, with the Japanese against the british Commonwealth; and Europe, with the Americans against Germany. The European theatre includes North Africa, but does not include British Commonwealth troops (well the game *was* written by Americans...).

The game package itself consists of two disks and two manuals. Each disk side contains one theatre, with the last side having the scenarios. One manual is a standard rulebook, explaining how to play the game, while the other (titled 'Briefing Manual'?!) is a book of tables, giving all the data on various units, weapons, and formations. It also acts as an antipiracy device, where the computer asks a question like the cost of a certain tank, etc. This is not too bad, as the manual is constantly being used during play anyway. A little (very little, in fact) information on the seven scenarios is also included.

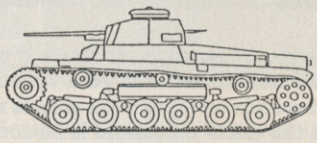
The basic unit in the game is the squad, which is generally about ten men, depending on the unit type. Between four and six squads make a platoon, with one of the squads acting as platoon HQ. Each platoon HQ is under a company HQ or the main HQ. For non-infantry units, the basic unit is one vehicle or tank etc. Each game turn also represents one minute of 'real' time, making the game one of tactics, and not strategy.



95 HA-GO

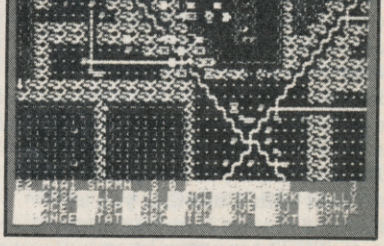
The scenarios included are Kakazu Ridge, Iwo Jima, Bocage, Waltz, Omaha Beach, Peiper on Point, Kohima, and Kampar. The only problem with these scenarios is that because the scale of the game is so small, the scenario is just a small part of the total conflict. For example the Iwo Jima scenario concentrates on capturing one of the airfields, instead of capturing the whole island.

There is no tutorial scenario, and, combined with the complex rulebook, this makes Typhoon a very hard game to get used to. Each unit is defined by a plethora of stats, compounded by the fact that each weapon in the unit has its own stats, plus armour stats for tanks. The more useful stats include skill, morale, number of men, radio, ammo, and suppression points. Suppression points reflect how involved that unit is with the enemy. When suppression points get too high, then that unit will retreat or rout. There are 14 different states possible for each unit, including advance (full or cautious), dug-in, pinned, abandoned, etc.

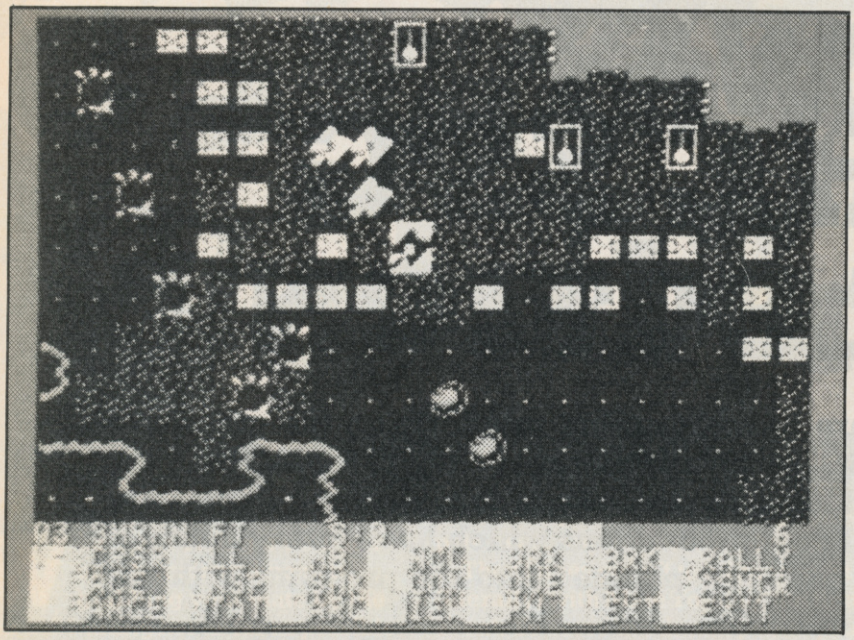


97 CHI-HA

Orders are given to each unit by a menu system at the bottom of the screen. The unit menu lists about 26 commands. Interesting commands include load (load unit into vehicle), find immediate HQ, list possible targets, and rally. If a HQ gives out a rally order, then all nearby units have their suppression points halved. Infantry and mortars can lay smoke, affecting visibility on the battlefield. It is also possible to limit the amount of orders given in one turn.



One surprising ommision from this wargame is maps. There are no maps or keys to the on screen terrain. As with all the latest wargames there is an option to build your

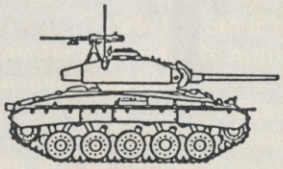


own scenario, and the only way to determine the terrain is to build a scenario map (using one of the many tables). Onscreen, there are two different map sizes, one of which shows most of the game map, and one which shows a very small area, but with much better definition, such as bomb craters, fires, etc. It does not take very long to work out that the small area map is totally useless.

Probably the best part about this wargame is the campaign game. This lets the player design a force, which is then used against a computer designed force, which might be two and a half times bigger, on a random map with a random mission. A date and location is also assigned to the combat. The random maps are usually much more interesting than the scenario maps, and are generally excellent. The computer intelligence is also quite good, and some of your forces can be computer controlled. The computer can also do things such as deploy your troops or take advantage of the terrain. The computer attacks are usually quite good and well coordinated, and the computer makes a very good defender (even setting traps in some campaign games) After the battle, units can be replaced or upgraded, according to cost and availability. If the player uses American or Japanese units, then they can also be transfered to a different theatre.

Another brilliant idea are the special are the special rules for Japanese troops (not including cannabalism!). These rules basically mean the Japanese troops do not retreat or rout. When losses are high, then all Japanese units enter banzi mode (reducing suppression points to 0) and charge at their objective. Normal rules such as a points handicap, and weather affecting visability, etc, are also included.

This game could be rated excellent if it was not for one thing, the slow playability. The speed of the combat phase depends on the number of units in play. In the big senarios, such as Iwo Jima, each turn at the start took well over half an hour (even though it is supposed to represent one minute!!). Even smaller campaign games are far too slow, and most people would probably end up disappointed with this wargame well before the first turn was



M-24 (Chaffee)

finished. The computer even prints up random numbers at the corner of the screen, just to show it has not crashed! Overall, I would highly recommend this wargame, but I feel that most people would find it boring, due to the speed. The manual is also very complex, distancing the game even further from most players, therefore it can only be recommended for diehard, patient wargamers.

Personal rating 51%

R.G.

Typhoon of Steel

S.S.I.

WIN THE SSG COLLECTION!!!

Top class software houses are not too thick on the ground in Australia but SSG are by any standards world level with their outstanding and highly complex wargames. These games are terrifically well-thought out productions which have every detail of some historical event carefully planned into the program with the most elaborate accuracy.

MacArthur's War, the latest SSG offering to hit these shores, reviewed enthusiastically in this CCI by Ranier Gellert, is a typical example of their very considerable talents. Like all SSG products, MacArthur's War will test the skills of the player to the extreme wjile at the same time is a real challenge to the imagination – and of course, finding out who could have been the better General – MacArthur or you!

Electronic Arts, who distribute SSG in Europe, have suggested that as CCI readers are so intelligent – much more so than MacArthur was – they would like a SSG Competition to challenge their minds even before they take on the SSG game.

Lovely Lesley, PR Princess of E.A. (her country estate in aristocratic Iver has the county of Buckinghamshire in one corner and Heathrow Airport in another, but she tells us that there is no truth in the rumour that World War III is to be staged in her vast garden especially so that SSG can write a game about it afterwards) is giving us the whole SSG Collection, a special gathering of SSG's biggest hits to the Comp Winner, plus RUN 5, a special magazine disk that SSG creates to help their avid players. The 20 runners up will get Electronic Arts T Shirts.

1. What is the one thing common to all SSG programs?
2. How many battalions are there in a regiment?
3. What happens to rescue exhausted troops in MacArthur's War?
4. What is the Infantry Icon in McArthur's War?
5. To which country (It wasn't Korea!) did General MacArthur say "I will return"?

Answers on a postcard, please, to
CCI/SSG Competition, 40 Bowling Green Lane, London EC1R ONE by May 15th 1989

Caveman Ugh-lympics

Graphics: 88%
Sound: 63%
Playability: 89%
Overall: 85%
Rating: MEGA
Price: £14.99 (d)

Electronic Arts

What have riding bare-back on a ferocious dinosaur, grabbing your mate by the hair and hurling her as far as possible and running from a sabre-tooth tiger, all got in common? Not much you might think, but these are just a few of the highly humorous events included in this stone-age version of the olympics.

No need for high-tech sports equipment or scrupulous judging here, just find yourself a meaty looking club, some natty leaopard-skin clobber and start pounding your way to that gold medal. Almost anything goes as you battle (and I mean battle) your way through the six events competing against one to six players.

You can choose to be any of the six characters who all have different strengths (apart from Vincent who hasn't got any!). They include Ugha, Gronk, Crudla (the only female), Thag, Glunk, and last and least Vincent, the pathetic wimp. Press the button on a character and a brief description about his/her background and strengths will be displayed.

If you have played any of the Epyx sports sims. (and come on who hasn't?) you will notice that Ugh-Olympics is a parody of the series. The fun starts as soon as the game has loaded when the opening ceremonies begin. An athlete comes striding on, grasping the torch in his hand, and all seems well until the Ugh-lympics logo comes crashing down on top of the once healthy athlete. A caveman then comes on and starts jumping around like a loony in real Ugh-lympics style.

Once you have selected your character you are required to type in a sponsors name (your own name if you like) so that it can be recorded in the 'Caves of Fame' (a high score table). Now it is time to play the game, you can either practice an event or compete in all, for that prized gold medal.

The Games get off to a flying start (literally) with Mate Tossing, the first event. To score maximum points you have to fling your girlfriend (who is likely to be your ex in a few minutes) as long a distance as possible. You do this by dragging her by her hair into an open space, then spin around to build up some good momentum and let 'er rip. If you spin too long however you will soon get exhausted and turn red, consequently achieving a shorter distance.

Next it's off to the race track for the Sabre Race. The idea is to beat your opponent to the nearest tree where you will be safely hidden away from the savage sabre-tooth tiger, who chases in hot pursuit.

I didn't really think much of the next event, Fire Making because it is too tiring and goes on for too long. Again you need to waggle the joystick as furiously as you can to simulate the rubbing of the sticks, then a spark will appear and it's time to start puffing to make a flame. Be careful not hyperventilate or you could find yourself in quite a daze.

A bit of senseless violence sets the scene for the next event, Clubbing. Played in a similar fashion to games such as Int. Karate and IK+, a different joystick position executes a different blow. Quite straightforward; the first player to deplete the other players energy, by successfully hitting him while avoiding hits.

Second to last event [illegible]e Dino Race. Clamber onto your dinosaurs huge neck, steady him with your reins and wait for the command. And...they're off. It is Ugha, the favourite, in his specialised event, racing away from Gronk on the green dino. To make your dinosaurs move, kick him with your heels, and watch out for those boulders that have to be jumped over.

The final event, the Dino Vault, is the most enjoyable and challenging to my view. Like the pole vault, but instead of leaping over a bar, you leap over a dinosaur. Move the joystick in time with your players feet (a helpful tip is to listen to his footsteps rather than watch his feet because they move too fast) and when your close to the dinosaur press the button to dig the branch into the ground, then release it at the right time and you might just avoid the dinosaurs hungry jaws. Dino never refuses a meal, so make sure you don't select a height too high for your standards, or you could be first on the menu.

The large and colourful graphics have been superbly drawn, in a way that gives them real character, having an overall look which is very amusing. Although the sound is supposed to be funny, (i.e. out of note music) the novelty soon wears thin and gets annoying after a short period.

This is certainly a game to bring your friendly opponents round to play, if you want to get the full enjoyment out of it, even though it is still good fun practicing on your own. Packed with a whole load of little surprises and amusing features Caveman Ugh-lympics will give you weeks, if not months of satisfying entertainment.

D.H.

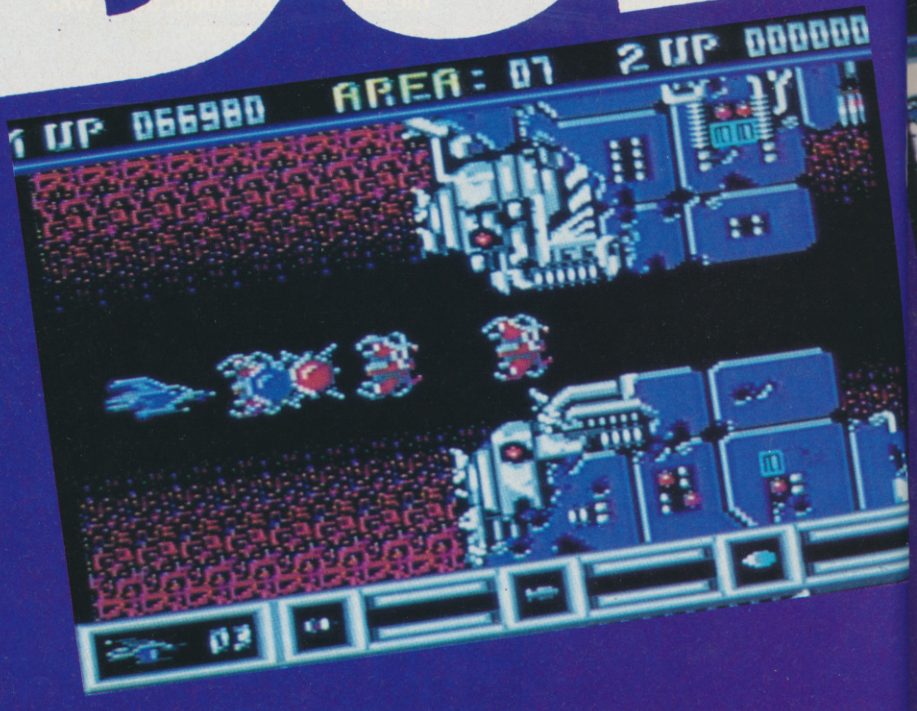
Den

US Gold

It shapes up well to the Amiga version which is saying something, and fortunately its gameplay is on par with its technical achievements.

You would have thought the horizontal scrolling shoot 'em up theme would be dead and buried by now. Nethertheless, programmer's still get the urge to string together a few sprites and whizz them around a scrolling background. If you recognize the graphics of this particular example of the art, it is because we first told you about it in the October issue, then titled Katakis. Activision found it a bit too similar to their licensed conversion of R-Type, and as a result the programmers Rainbow Arts were forced to make some very slight alterations and rename it. (It's called, in law, 'Look and Feel' – No, leave Samantha alone, it means that a program is too close a copy of someone else's – and you, or US Gold, could be sued for it)

Almost as soon as Denaris begins, your first bolt-on upgrade icon drifts its way scross the screen. Pick it up and the equipment homes in on the front of your ship, forming a shield against head on flak. You can also use it to clear the way ahead by shooting it off the front and re-docking a few seconds later. Level one takes you through an asteroid belt above a desolate planet. All the usual aliens accost you, some airbourne, others based on the planet surface.



"No R- Type variant would be complete without the level guardians, and those in Denaris are by far the most impressive ever to have been squeezed into a 64."

No R-type variant would be complete without the level guardians, and those in Denaris are by far the most impressive ever to have been squeezed into a 64. They vary in their mutated forms, but all are enormous beasts that glide around the screen as if the programmers have somehow

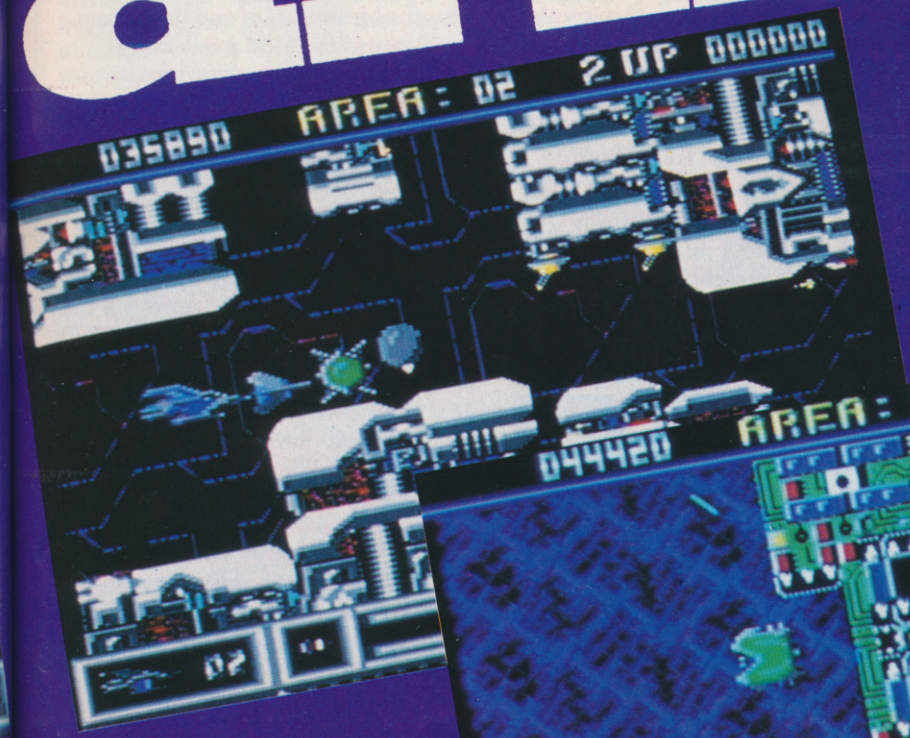
convinced the machine it's an Amiga! Of course, they take a great deal of punishment, but the trick is to find their weak spots (usually just above the eyes) and pound them with a constant barrage of mega-bolts from your versatile lasers.

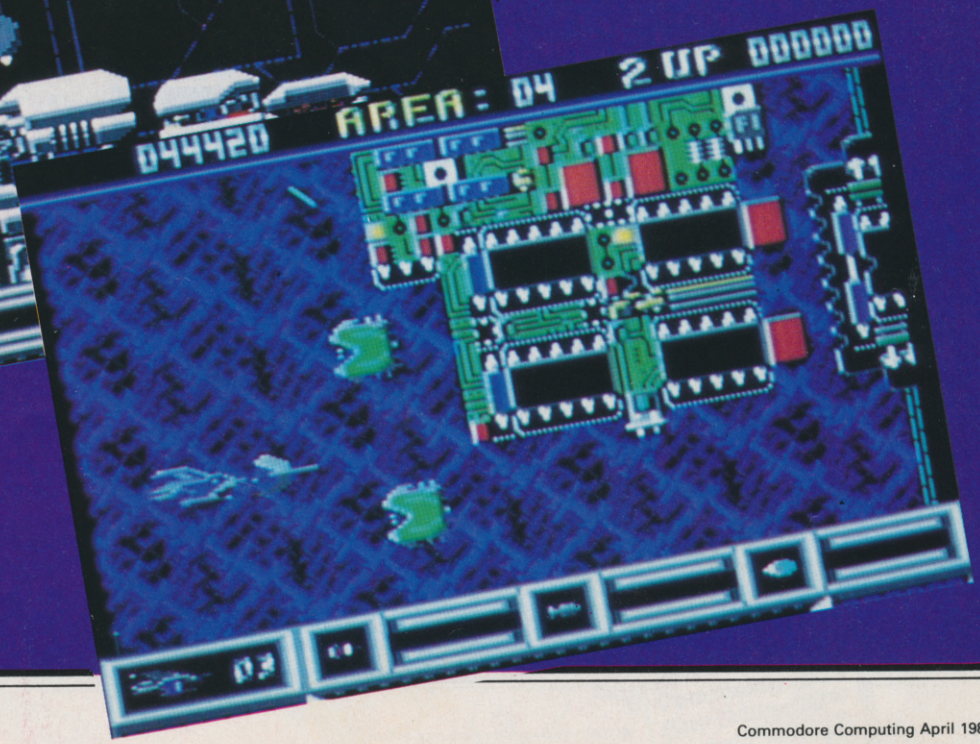
Sound and graphics are spot on throughout the entire game. Not only are the sound effects good and spacey, but the music is surprisingly original. Parallax scrolling is in abundance giving the caried and imaginative levels a great realistic impression of depth. It shapes up well to the Amiga version which is saying something, and fortunately its gameplay is on par with its technical achievements. Denaris is the best shoot 'em up to appear in ages, and is a game no zap-addict should be without.

T.H.

aris

MEGA





Graphics: 91%
Sound: 90%
Playability: 84%
Overall: 88%
Rating: MEGA
Price: £9.99 (c)

C64

MEGA

Dragon Ninja

Imagine

Despite its lengthy name and very conventional look, Bad Dudes Vs Dragon Ninja still managed to establish itself as a favourite among arcade-going beat 'em uppers. If like me, you were disappointed in Melbourne House's totally-bodged conversion of the closely related coin-op Double Dragon, you will be pleased to hear that Imagine have put their top men on the job, and the result is impressive.

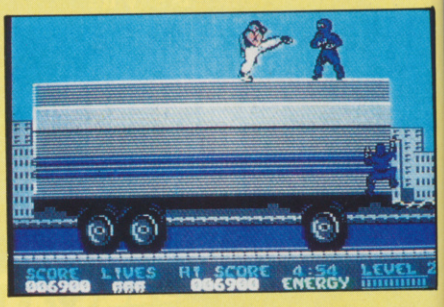
"Being the hero of the game, you have your fair share of jaw-breaking moves up your sleeve."

Although the original game had a simultaneous two player mode, the programmers have made a slight compromise in demanding the player tackles the mission alone. Seven right to left scrolling levels lie between you and your goal. The levels are as usual riddled with all kinds of oeiental warriors. Being the hero of the game, you have your fair share of jaw breaking moves up your sleeve. Not all of the attacking moves of the coin-up are there, but with a bit of persistence, the eight kicks and punches are enough to see off the fastest of opponents.

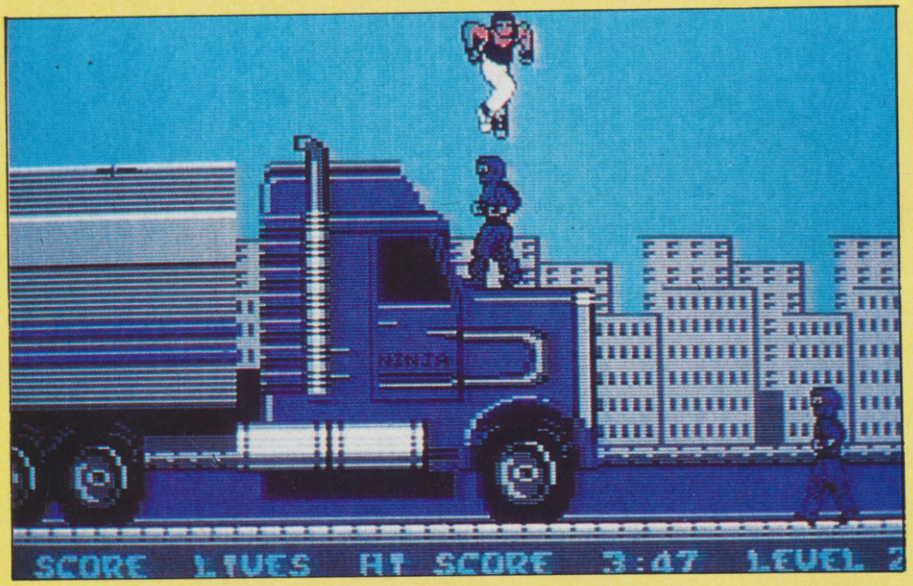
"Girls in kinky stockings have a knack of beating you up simply by walking up to you (just like real life!)"

Evil ninjas are the basis of the enemy's defences. These brain-washed assasins swarm the levels, homing in on intruders before punching them in the face. Just a single blow deals with these, but more precision is called for when attacking an armed opponent. As in Double Dragon, weapons from decked enemies can be picked up and used by yourself. Girls in kinky stockings have a knack of beating you up simply by walking up to you, (just like real life!).

Level one is set against a back-drop of neat, but rather enexciting cityscape. In contrast the second level has you fighting on top of an articulated juggernaut as it powers along the road. It's one of the few oroginal features of the game and has been recreated extremely accurately from the coin-op, complete with smooth parallax scrolling. Other levels take you through sewers, forests and up onto the roof of a train in a similar scene to level two.



Although some of the sprites look a bit wooden, the main sprite is superbly detailed, with all the character of the arcade version. In a number of places it's very similar to Target Renegade, hardly surprising as it was written by the same team. The detailed colourful sprites come as a result of some clever programming and graphic design (although it does glitch when things get busy) and the unobtrusive soundtrack and effects are pleasing. It would benefit from the dual player mode and some light relief from the slightly repetitive attacks, but that's more a fault of the coin-op than Imagine's conversion. In all, an excellent conversion of a familiar coin-op that will find favour with Dragon Ninja veterans and newcomers alike.



Graphics: 90%
Sound: 78%
Playability: 78%
Overall: 79%
Rating: MEGA
Price: £9.95 (cass)
£14.95 (disk)

MACARTHUR'S WAR

SSG

An ancient Korean proverb states that when two whales battle, the shrimp is crushed between them. The Korean war, which to all intents and purposes started out as an inevitable civil war, soon became a clash of those very mighty whales, the United Nations (mostly the U.S.A. with worldwide permission) against Communist China (trying to protect itself from MacArthur).

'MacArthur's War', another offering from SSG, is an intriguing portrayal of the Korean War. It is based on the 'Battlefront' game system, which seems to be SSG's favourite wargame system at the moment. The main advantage of the 'Battlefront' system is that if you already own a 'Battlefront' based wargame, then you can play 'MacArthur's War' immediately, without even looking at the manual. Another advantage (?) is that you could use any 'Battlefront' based game to play the scenarios from another 'Battlefront' wargame. Quite why anyone would want to do this is quite beyond this reviewer, but it's there. The main advantage of 'Battlefront', however, is the fact that you can use the supplied construction routines to muck about with the enclosed scenarios as much as you like, and you can even create your own scenarios.

"The infantry icon, instead of being a box, is now the profile of a soldier firing a rifle, and the armour icon is a little tank, etc."

Included in the game package is a manual, a very large glossy poster containing all of the maps, disk labels for those saved games and scenarios, and two cards which summarize all of the game menus using flowcharts. The one thing that is common between all SSG wargames is the fact that they all use a menu system for orders and information. Once you are used to the menu system, then you can quickly get information on your units, the map, etc, and send out orders effortlessly.

The main idea behind the 'Battlefront' system is the fact that orders can only be given to regiments. But the basic unit on the map is the battalion (there are between two to eight battalions in a regiment). That regiment then goes to its objective, sets up a defence, attacks an enemy battalion, or goes into reserve. This totally destroys any hope of tactics on the battlefield because you cannot order a battalion to go anywhere by itself, or to retreat by itself, etc. This is very annoying when one battalion in a regiment has sustained 60% damage with the other battalions unscathed. The only options then are to carry on and lose the battalion, or to put the entire regiment into reserve, and then wait a long time before that battalion is ready for battle. The exact same thing also happens when a battalion is routed. Ideas like using the terrain to defend or attack are also hard to implement, because of the lack of basic control a player has over his units.

The game does allow practically any kind of battalion to exist, from the cavalry to tank destroyer, with the usual wargame icons. One odd change in this version of 'Battlefield' is that the general battalion icons have been changed, from the old standard wargame symbols to 'prettier' ones. For example, the infantry icon, instead of being a box, is now the profile of a soldier firing a rifle, and the armour icon is a little tank, etc. Despite being a very simple and easy change, its a miracle how much more effective it is. Routed units look like a running man, and it really makes the battlefield, and the game, look that much better and simpler. There is also an error in the manual, as it prints only the old, standard symbols.

The manual itself is the usual SSG first rate brilliance. It includes an introductory tutorial (not so hot), lots of detail about the game menus and routines, a section on how to construct your own scenarios, and an unbiased history of the Korean War. There are eight scenarios included on the disk, and together they represent a concise history of the entire campaign. There are notes on each scenario and suggestions for possible changes you could make, twisting history slightly.

One thing I liked compared to the other 'Battlefront' games was that the included scenarios generally had less troops on a large map. This helps by making some tactics actually possible, without units crammed together and getting stuck. The scenarios are also quite varied, with lots of different territory to be encountered and some very different problems. Some of the scenarios involve holding out with exhausted or untrained troops until they are rescued by some elite troops, etc, and this makes for a much more enjoyable game, which are usually of the 'defend as well as you can' or 'destroy all enemy units easily' type.

The main reason why I would buy this game is for the construction routines. They are incredibly flexible and it is possible to create any kind of battalion you could imagine, any kind of terrain, any objective, and give them any kind of icon you like, using the icon designer. You could even create a medical unit of sorts, as it would not be able to make it patch up your troops, but it would make a nice map addition. You could even name it the 4077th!!

For a wargame, 'MacArthur's War', is slick, professional, and fast. It is also very flexible, in the respect that you can create anything. But the 'Battlefront' system kills off any kind of creative, original tactics, making it a game of strategy. Out of the 'Battlefront' series, 'MacArthur's War' is my favourite, but I still pull my hair out over those wasted battalions, as it is very annoying.

R.G.

Detail: 77%
Complexity: 70%
Playability: 87%
Overall: 78%
Price: £19.99

Charts

Chart Chattering Events

No, we haven't made a mistake and printed last month's charts. It's simply sleepytime down at the store...for all you enthusiastic (I don't think!) gamebuyers have just stopped game buying. Sales all round have dropped by about half of what was grabbing your pockets a month ago and so the top three have all gone off to dreamland and there has also been very little movement at all. Partly, that is because all the software houses, poor things, absolutely exhausted themselves in the end of year rush and tumble to get all their latest products onto your screens – and your money into their bank accounts – and practically nothing, a great zilch, has been released this lunar period. Hence Tony the Horg's long, long face and black looks at the monitor.

'What a load of rubbish!' he moans. So the only new entry to the Top Ten of the 64 Kind is ... and old entry – Pacmania which has been here before. Microprose Soccer does shrug off the lethargy and rise a few places but otherwise it all seems carved in stone – unless someone blows us all out with a surprise release soon.

Now on the Amiga there is some action. The FTL/Mirrorsoft biggie Falcon has zoomed in with a smash hit first time and jumps into Number One. Dungeon Master holds onto Two but another from the Peter Billiot/Robert Maxwell stable, Speedball, enters at Four.

For the Cheapo fans, Commando is still a big favourite with Joe Blade moving in menacingly. A surprise at Three with the re-appearance of good old Ghostbusters. We're told that it's a result of a big-selling toy in the festive season. Will those unquiet and haunting spirits never lie down? (What no Rack It's Slayer, I hear you cry. Enough of you just haven't bought the best cheapo around that's all. Yet!)

GAME TITLE	COMPANY	LAST MONTH	PRICE	RATING
1. Operation Wolf	Ocean	(1)	£8.95	Crisp
2. Robocop	Ocean	(2)	£9.95	Mega
3. Thunderblade	U.S. Gold	(3)	£9.99	Mega
4. Afterburner	Mediagenic	(6)	£9.95	T.B.A.
5. Microprose Soccer	Microprose	(9)	£14.95	Mega
6. Batman	Ocean	(5)	£9.95	Mega
7. Emlyn Hughes	Audiogenic	(7)	£9.95	Awesome
8. Double Dragon	Melbourne House	(4)	£9.95	Iffy
9. Pacmania	Grandslam	(-)	£9.95	Mega
10. R-Type	Electric Dreams	(8)	£9.99	Crisp
Amiga				
1. Falcon	FTL/Mirrorsoft	(-)	£29.99	
2. Dungeon Master	Mirrorsoft	(2)	£29.95	
3. Operation Wolf	Ocean	(1)	£24.95	
4. Speedball	Imageworks	(-)	£19.95	
5. Thunderblade	U.S. Gold	(3)	£24.95	
Budgets				
1. Commando	Encore	(1)		
2. Joe Blade II	Kixx	(5)		
3. Ghostbusters	Mastertronic	(-)		
4. Yogi Bear	Alternative	(-)		
5. Guantlet	Kixx	(3)		

A WIZARD, A DWARF, A RABBIT

Peter Gerrard invites you to Lurkland and suggests you consult the weather outside when programming in his series on writing a RPG

At last! The festive season is over and I can get my hands back on the television again. Not for too long at a time, though, we have to work slowly in and around the snooker coverage and a welter of soap operas (Emmerdale Farm forever – why doesn't someone do a game about it?), but at least I am now happy that the introduction to Venture is not going to need any changes.

Consequently, that is the listing for this month. As you can see, it is fairly straightforward, with the main program being automatically loaded from disk at the end of the introduction. Tape users can just change the ",8" to a ",1", and make sure that they remember to press the STOP button on the tape deck whilst reading through the instructions, otherwise the screen display will be a mite mangled and the main program will not run properly.

As the listing is so straightforward not even I can waffle on about it for the next couple of pages, so, in a complete departure from the norm, for now, a little adventure tale involving our old friends from way back with Strombrigner the Grey and Dimli Gloing the wonder dwarf. They have acquired a new companion, a mind-reading rabbit, although his skills are not required in this particular saga, and the rabbit has a minor speech impediment as you shall see. This is just to bring him in line with Strombrigner's general air of ineptness and Dimli's somewhat clumsy behaviour.

We start outside a great castle, in the land known as Lurkland, and you are the shadowy force behind it asll who has to make the decisions for everyone. So without further ado, let us get started.

The Quest – To find a Time Travel spell, written on an old scroll.

The Place – The land where wizards lurk.

1) Your party assemble outside the castle walls. Who do you put in charge of the group? Strombrigner (turn to 2), Dimli (turn to 3) or Windbweaker's Wabbit (turn to 4)?

2) Strombrigner is delighted, and heads off into the woods. Reluctantly, the others follow him. Turn to 5.

3) Dimli shakes head, Strombrigner glowers at you, and the rabbit does a somersault. Reluctantly, you place Strombrigner in charge. He heads off into the woods and the others follow him. Turn to 5.

4) The rabbit bounces up and down, Dimli shakes his head, Strombrigner glowers at you, but the die is cast. The rabbit hops off along a path towards a nearby group of caves, and the others follow him. Turn to 6.

5) Strombrigner stops at the foot of a tree and suggests climbing it. He can't because of his age, so do you send Dimli (turn to 7) or the rabbit (turn to 8)?

6) The group pause at the cave entrance. Who is to go in first, is it Strombrigner (turn to 9), Dimli (turn to 10) or the rabbit (turn to 11)?

7) Dimli scuttles up the tree, and comes down clutching a parchment, which he gives to Strombrigner. it is an old map. Strombrigner heads west, into the forest and the others follow. Turn to 12.

8) The rabbit gives a snort. "Don't be widiculous!" he mutters, "wabbits can't climb twees!". Strombrigner looks confused, heads south into the forest, and the others follow. Turn to 13.

9) Strombrigner steps in cautiously, looks around, and notices a tunnel to the north. After a while the rabbit hops in, and Dimli soon follows. Turn to 14.

BATTLETECH

10) Dimli rushes in, trips over a stone, which rolls aside and reveals an old map drawn on a parchment. He hands it to the rabbit, who hops off to the east. The others follow, so turn to 15.

11) The rabbit hops in and being close to the ground notices a scrap of paper under a stone. He tugs it out, revealing a map. He then heads off to the east, the others follow, so turn to 15.

12) A tree reveals itself to be a driad, or tree-nymph, which looks at you out of startled brown eyes. Do you talk to it (turn to 16) or ignore it (turn to 17)?

13) You are blundering about in the forest, and getting lost in the ever-increasing trees and bushes. Turn to 18.

14) You stumble along, sometimes bumping into the walls of the tunnel, which seems to be getting narrower. Turn to 20.

15) You notice a curious sentence written on the map, which Strombrigner translates as meaning "rotate the stone twice to enter". You wonder what it means, and carry on to the east. Turn to 21.

16) You talk to the driad, who reveals that you must go east when you reach the river. It reverts back to tree form, and you carry on deeper into the forest. Turn to 19.

17) You ignore the driad, which reverts back to tree form, leaving you untouched. You carry on deeper into the forest. Turn to 19.

cont. on next page

continued from page 71

18) You finally manage to find your way out and discover to your astonishment that you have almost circled the castle and are now approaching a group of caves. Turn to 6.

19) A well-worn path soon makes its presence felt, and you follow it for sometime until you can go no further in that direction. You are in front of a fast flowing river that is too wide to cross. Do you head east (turn to 23) or west (turn to 22)?

20) Suddenly the tunnel turns and opens out into a huge auditorium, with a door in the opposite corner. On the door is a stone, which can easily be turned. Do you turn it once (turn to 24) or twice (turn to 25)?

21) The tunnel snakes now this way, now that, and you can only follow it blindly. Turn to 20.

22) You turn to the west, and are startled to see the glaring eyes of a snarling wolf staring at you. Do you try and ignore it (turn to 26) or run (turn to 27)?

23) You turn to the east, and find the remains of a small fire, still warm, in a clearing. Examining the ashes reveals a glass jar, slightly warm but otherwise undamaged by the fire. It could come in useful. You add it to your possessions, and continue. Turn to 28.

behind you. No exit there! You walk along the high tunnel until you find a jumble of rocks appearing in front of you. It is just possible to climb over them. Who to send first? Is it Strombrigner (turn to 36), Dimli (turn to 37) or the rabbit (turn to 38)?

31) Strombrigner has his way, and you end up following the tunnel to the right. It is quite a high tunnel, plenty of room, but before long you find yourself amongst a jumble of rocks. It is just possible to climb over them. Who to send first? Is it Strombrigner (turn to 33), Dimli (turn to 34) or the rabbit (turn to 35)?

32) After much argument Dimli finally has his way, and you head back along the route to the castle. From there, after another disagreement, you head off into the forest. Turn to 5.

33) Strombrigner looks at the rocks in disgust, and protests that he is much to old to be clambering about in this unseemly manner. An argument develops, during which Dimli is pushed backwards. Falling, he hits the rocks and disturbs them, an avalanche of debris falls from the roof and blocks the path, leaving no way through. Turn to 39.

34) Dimli starts to clamber over the rocks, but many of them give way beneath his weight, and he ends up back where he started from. The falling rocks create an avalanche of debris falling from the roof, the path is blocked, and there is no way through. Turn to 39.

35) The rabbit scampers over the rocks and is surprised to find a party of explorers on the other side. he hurriedly rushes back, and after hearing thje news Strombrigner and Dimli succeed in blocking the path off. However, their efforts disturb the surrounding walls and a new tunnel opens up to the east. Turn to 40.

M.U.D

24) You turn the stone once, and a curious grating sound comes from beyond the door. However, it soon stops, and there is a click as the stone locks into place. You are getting nowhere fast. Turn to 29.

25) You turn the stone once, and a curious grating sound comes from beyond the door. You turn the stone again, and the door smoothly slides open to reveal a well-lit rocky corridor. Turn to 30.

26) You try and ignore the wolk, but it doesn't ignore you. You run for it, and fortunately for you the wolf is lame and you manage to escape into the depths of the forest. Turn to 13.

27) You run as fast as you can, and fortunately for you the wolf is a lamer and you manage to escape into the depths of the forest. Turn to 13.

28) You leave the clearing and soon become immersed once more in the great forest. Turn to 13.

29) Your party turn away from the door and look around. Strombrigner suggests following the tunnel on the right, Dimli wants to go back to the start. Do you want to follow Strombrigner (turn to 31) or Dimli (turn to 32)?

30) You walk through the open doorway, and turn as the door clangs shut

36) Strombrigner looks at the rocks in disgust, and protests that he is much to old to be clambering about in this unseemly manner. An argument develops, during which Dimli is pushed backwards. Falling, he hits the rocks and disturbs them, an avalanche of debris falls from the roof and blocks the path, leaving no way through. Turn to 41.

37) Dimli starts to clamber over the rocks, but many of them give way beneath his weight, and he ends up back where he started from. The falling rocks create an avalanche of debris falling from the roof, the path is blocked, and there is no way through. Turn to 41.

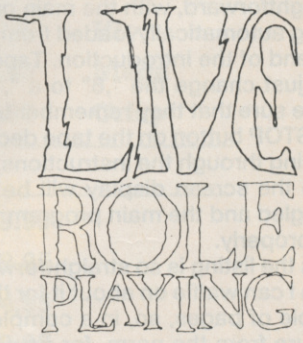
38) The rabbit scuttles over the rocks but stops when he reaches the top. he cries out for something, but you can't quite hear him. if you possess nothing, then turn to 42, but if you have the jar from the forest then turn to 43. I shall trust you.

39) Deep in despair and fearing the worst, there is nothing for you to do other than trudge back to the auditorium. Turn to 44.

40) You explore the new tunel in growing confidence, but confidence soon turns to despair as you realise that the tunnel is heading nowhere. in fact, it only succeeds in bringing you around in a circle and once more back to the auditorium. Turn to 44.

41) There is nowhere to go, and you trudge back to the centre of the auditorium. Turn to 44.

42) The rabbit screams for the jar, so that he can collect the oil that has began to seep through the ceiling, but as you do not possess the jar, there is nothing you can do. The rabbit comes back, dispirited, and you trudge back to the auditorium. Turn to 44.



43) You throw the jar to the rabbit who deftly catches it. For a few seconds he pauses, collecting the oil that is dripping from the ceiling, and then he hops back to you. "A wiveting idea" he hisses, and you follow him off to the west. Turn to 45.

44) Your mission is at an end. There is nowhere else to go, and you end up in shame outside the walls of the castle, awaiting the severe ticking off that you know you deserve. Windbweaker, that legendary leader of wizards, is not going to be all that happy about this. Its a hard life. THE END!

A WIZARD, A DWARF, A RABBIT

45) The rabbit had noticed a small door, almost hidden in the rock wall. He oils the lock, the door swings noiselessly open, to reveal three tunnels. If you possess the map from the forest and the map from the caves, turn to 46, if you possess neither, turn to 47, if you possess one of them then turn to 48. I shall, as ever, trust you.

46) You enter the centre tunnel, a long dark corridor that opens up onto a large room with an ornately carved wooden table in the centre of it. On the table something is glowing. Strombrigner reaches out to take it, and a voice shrieks STOP! Should he proceed (turn to 50), or STOP! (turn to 49).

47) You enter the left-most tunnel, get lost in a maze of corridors, and end up back in the centre of the auditorium again. Turn to 44.

48) You enter the right-most tunnel, but are soon twisting and turning in a maze of corridors. It is hard to keep any sense of direction, and you soon end up back in the centre of the auditorium again. Turn to 44.

49) Strombrigner STOPS! in horror at the shrieking voice, and then, in deeper tones, the grave voice continues "You have done well, wise ones, take your scroll." As if by magic, the time travel spell, engraved upon the scroll (for that is what the glow really was) is lifted from the table and floats serenely into Strombrigner's hands. he looks at it in awe, and you realise that your mission is at an end. Congratulations! THE END!

50) Strombrigner ignores the voice and reaches out for the scroll, but just as his hand crosses the table a puff of smoke appears and the scroll vanishes. A deep voice laughs resoundingly, and you admit that you are beaten. You're going to get told off, you know. Windbweaker, that legendary leader of wizards, is not going to be at all happy about this failure of yours. It's a hard life. THE END!

There, that wasn't too complicated was it? But it might spark a few ideas off amongst you, and if it only succeeds in doing that then our time will not have been wasted. I first came across a book of this nature some time ago, by Steve Jackson, and then found another one by the wonderful science-fiction author Harry Harrison (he of The Stainless Steel Rat fame, amongst others) that is worth searching out by anyone who enjoys their science fiction adventuring being liberally sprinkled with humour. Excellent stuff.

Of course, within the limits imposed upon us by only having a relatively small amount of space at our disposal in the magazine, we cannot go off into breathtaking prose and produce lengthy narratives of the sort that can be found in Harrison's and Jackson's books, but as ever with these series of articles it's principally the idea that's the thing, so perhaps we might see one or two *CCI* readers trying their hand at coming up with an adventure story.

Or even, as someone suggested to me the other day, a role playing story. It might on first thought be more difficult to do than a straightforward adventure story, but it would not be that much more difficult, I am sure. You could easily introduce time and weather elements (get the game played in real time and have the player consult a watch or clock to decide on actions – now there is a thought–similarly, looking outside at the weather could also make certain decisions for the player), all the expected items that are to be found in mots good RPGs could be incorporated, so why not? Something to think about.

For us though, next month it's back to the keyboard again as we continue on our merry way with the first part of the main Venture program. See you then.

P.G.

OFFICIAL
Advanced Dungeons & Dragons®

```
10 REM INTRO FOR COMMODORE 64 BY PETE GERRARD
20 POKE 53281,0:POKE 53280,2:PRINTCHR$(158):POKE 53272,23
30 X=RND(-TI):DIM AX(10,10,10)
40 LEVEL=1:CL$=CHR$(147)
50 REV$=CHR$(18):ROF$=CHR$(146)
60 REM HERE WE GO
70 PRINT CL$;TAB(10);REV$;"*  X ¯ / |  / _ ¯  *";ROF$
80 PRINT:PRINT"¯O YOU WANT INSTRUCTIONS ( | OR /) ? ";
90 GET A$:IF A$="Y" THEN PRINT " |":PRINT:GOTO 100
95 IF A$="N" THEN 430
96 GOTO 90
100 PRINT"OELCOMB TO LEVEL 1 OF XENTURE,THE FIRST
101 PRINT"OF 4096 DIFFERENT LEVELS.  |HEY'LL
102 PRINT"GRADUALLY GET MORE AND MORE DIFFICULT
103 PRINT"TO SOLVE, SO PAY CAREFUL ATTENTION TO
104 PRINT"THIS FIRST AND POTENTIALLY THE EASIEST  OF ALL OF THEM.":PRINT
110 PRINT"\ SAY POTENTIALLY, BECAUSE THE GAME IS
111 PRINT"CONTINUALLY PROGRESSING.  |EINGS ARE
112 PRINT"BORN, ON THE MOVE, AND ARE SOMETIMES
```

cont. on next page

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113 PRINT"BEING KILLED, AT ALL TIMES, WHETHER YOU
114 PRINT"ARE DOING ANYTHING OR NOT.  THE GAME
115 PRINT"WILL PLAY ITSELF QUITE HAPPILY WITHOUT  YOU.":GOSUB 500
120 PRINTCL$:PRINT"LIKE ALL LEVELS,THE FIRST ONE IS PLAYED
121 PRINT"ON A 10 BY 10 BY 10 MATRIX.  OITHIN THE
122 PRINT"CONFINES OF THIS MATRIX, AND SUBJECT TO
123 PRINT"CERTAIN RESTRICTIONS, YOU CAN MOVE
124 PRINT"/ORTH, ♦OUTH,  AST AND OEST.  /P AND     DOWN IS MORE DIFFICULT.":PRINT
130 PRINT" RESSING KEYS / ♦  O WILL SERVE TO
131 PRINT"MOVE YOU IF YOU CAN IN FACT MOVE.  THER
132 PRINT"KEYS CAN BE PRESSED AS WELL, SUCH AS _
133 PRINT"TO _ESTORE A SAVED POSITION, / TO /EEP
134 PRINT"YOUR CURRENT ONE,  FOR  ELP, OR L TO    LOAD A NEW LEVEL."
140 PRINT
150 PRINT"/OTE THAT YOU CAN ONLY LOAD A NEW LEVEL
151 PRINT"IF YOU HAVE THE CODE NUMBER FOR THAT
152 PRINT"LEVEL.  ♦UCCESSFUL COMPLETION OF ONE
153 PRINT"LEVEL WILL GIVE YOU ACCESS TO ANOTHER
154 PRINT"LEVEL, DEPENDING ON HOW WELL YOU HAVE
155 PRINT"DONE, AND WILL ALSO GIVE YOU THE CODE    FOR THAT LEVEL.
156 GOSUB 500
160 PRINT CL$
170 PRINT" HE OBJECT OF EACH LEVEL IS TO SEEK OUT
171 PRINT"AND DESTROY THE  ♣_ \♣/ OF THAT LEVEL.
172 PRINT" HESE  UARDIANS ARE POWERFUL BEINGS,AND
173 PRINT"CANNOT EASILY BE DESTROYED.  \N FACT,
174 PRINT"THEY CANNOT BE DESTROYED BY YOU AT ALL.":PRINT
200 PRINT" OWEVER, YOU DO HAVE ALLIES.  HREE OF
201 PRINT"THEM IN FACT, KNOWN AS  OPPERS, ♦LIDERS
202 PRINT"AND \ONKEYS.  O DESTROY A  UARDIAN YOU
203 PRINT"WILL NEED ONE OF EACH WITHIN ONE SQUARE
204 PRINT"OF IT, EITHER ABOVE IT, BELOW IT, OR    NEXT TO IT.":PRINT
210 PRINT" OPPERS, ♦LIDERS AND \ONKEYS MOVE OF
211 PRINT"THEIR OWN ACCORD, OR UNDER YOUR COMMAND
212 PRINT"IF REQUIRED.  HEY ALL MOVE IN STRAIGHT
213 PRINT"LINES.  RESS  TO GIVE YOU THE CHANCE
214 PRINT"TO CHANGE THEIR DIRECTIONS.":GOSUB 500
220 PRINT CL$:PRINT" ACH PORTION OF THE MATRIX MAY CONTAIN
221 PRINT"BOULDERS AND HOLES.  OULDERS ALLOW YOU
222 PRINT"OR ANYTHING ELSE TO CLIMB UP THE MATRIX
223 PRINT"AND HOLES ALLOW YOU TO CLIMB DOWN.
224 PRINT" ROVIDED THE WAY IS CLEAR, OF COURSE!":PRINT
230 PRINT" UT THERE ARE OTHER DWELLERS OF THE
231 PRINT"MATRIX, UNDER THE CONTROL OF THE
232 PRINT" UARDIAN.  HE FIRST OF THESE IS THE
233 PRINT"♦OMBIE, WHICH CAN KILL ANYTHING IT LANDSON (EXCEPT YOU).":PRINT
240 PRINT"\MPS ARE ALSO VERY FEROCIOUS, BUT THE
241 PRINT"WORST OF ALL IS THE DREADED  RIMLEY,
242 PRINT"WHICH CAN KILL YOU.  OU CAN KILL A
243 PRINT"♦OMBIE OR AN \MP EASILY, BUT WILL NEED
244 PRINT"SPELLS TO KILL A  RIMLEY.":PRINT:GOSUB 500
250 PRINTCL$:PRINT"/EEDLESS TO SAY, THE HIGHER THE LEVEL,
251 PRINT"THE MORE BEINGS DWELLING ON IT.":PRINT
252 PRINT"♣ 10 BY 10 MAP WILL BE DISPLAYED, ALONG
253 PRINT"WITH A CLOSE UP 3 BY 3 ONE. \NFORMATION
254 PRINT"ABOUT THE BEINGS WILL BE DISPLAYED AT
255 PRINT"THE BOTTOM OF THE SCREEN.":PRINT
260 PRINT"\F ANYTHING OF YOURS BUMPS INTO A
261 PRINT"BOULDER IT WILL ASK YOU IF YOU WANT IT
262 PRINT"TO BE MOVED, OR IF YOU WANT IT TO CLIMB
263 PRINT"UP THE MATRIX.  \F ANYTHING FALLS INTO
264 PRINT"A HOLE, IT WILL JUST FALL DOWN!":PRINT
270 PRINT:PRINT" F COURSE,YOU COULD ALWAYS PUSH BOULDERSDOWN HOLES ...
280 GOSUB 500
330 PRINT CL$:PRINT"\NFORMATION ON WHICH KEYS TO PRESS CAN
331 PRINT"BE GAINED AT ANY TIME BY PRESSING \.
332 PRINT" HERE ARE SEVERAL SCREENS OF DATA FOR
333 PRINT"YOU, BUT YOU'LL GET THE HANG OF IT.
334 GOSUB 500:GOTO 430
430 PRINTCL$;"■■LOAD"CHR$(34)"VENTURE"CHR$(34)",8■■■■■■■RUN■";:
431 POKE 631,13:POKE 632,13:POKE 198,2:END
500 POKE198,0:PRINT:PRINT " RESS "REV$"♣ ♣- "ROF$" FOR MORE."
510 GET A$:IF A$<>" " THEN 510
520 RETURN

READY.
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Adventure

In this month's delve into the voyaging minds of adventure, Andy Moss reports on his own adventure courtesy of Activision and news of lots of products in the making

BY ANDY MOSS

Welcome to another chapter of adventure, and what better way to start, than report on a real life adventure set in London and starring ..... ME!? Not to mention a few other adventure journalists including Keith Campbell who had the misfortune to be teamed up with yours truly. All this was in aid of Activision/Mediagenic, who decided to treat us all to a festive noggin, a few mince pies and some choice chow to celebrate our support throughout 1988. Before we could tuck in though, we had to solve a devious adventure through London's tube system devised by the fiendish Amanda and Zia. They gave us clues, a form to fill in the answers, and an underground pass and left us to it. Needless to say, the cream rose to the top, and Keith and I gallantly romped home before all the others, to claim our prize ... a Christmas pud! Thanks ladies for a lovely time, can't wait for next time.

This month sees the start of Bard's II solution for all of you who have requested it, some news of a number of great releases up and coming, and a review of an adventure entitled MORIA, by an American company whose address I have listed after the review.

Before all this, though, my news is that at last, I have it! Dungeon Master has arrived and has been in my Amiga now for over two weeks. Everything you have heard about it is true, it is quite an astonishing piece of software, and should be reason enough to buy an Amiga. At present it is only for 1 meg machines but I know certain people are hard at work trying to cram it into 512K, which will be out some time in late September.

ADVENTURE NEWSDESK

FISH GOES 64

At last FISH!, Mag Scrolls award winning Oskared adventure has been released on the 64. All the flavour, versatility and graphical excellence is there, all you need to do is sample it right NOW.

£19.99

NEW ADVENTURE GENERATOR OUT NOW

Talespin, is the name of a new adventure writing utility from Microdeal that really is state of the art (see pics.) Graphics can be re-used on different pages of the adventure but using tiny amounts of memory, like a sky scene for instance where the moon can be used time after time.

The actual gameplay features Gem style dialogue boxes with options appearing in reverse text, fully mouse-driven adventures with no text typing, digitised sound, compressed picture files and a help option. On the development side, the package includes DEGAS files, an internal palette for touching up pictures, variables are tied to drawings and the pictures you create can be dragged for positioning in front of or behind other objects. There is plenty more, such as switchable background colours, multiple text boxes that are linked to the graphics, and you can jump to any page or import sound whilst developing. It really has got to be the most comprehensive adventure writing system yet, and guess who will have a copy to show you as soon as there is one available?

cont. on next page

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More Adventure!

POPULOUS – A GODLIKE GAME

EA have announced the release of Populous, a strategy game about two nations, one good, the other evil, both fanatic followers of their own God. You play one of the Gods, and your aim is to populate, claim new lands, evolve new technologies and then wipe out the population of your opponent. After clearing land for your people to build on, you must increase the technology level quickly as this will determine your divine power. This includes amongst other things creating swamps, earthquakes, volcanoes and floods. There are literally hundreds of "worlds" and options include a custom mode and a conquest mode. Sounds like my sort of game, I fancy playing God!

THE FIRST CD ROM PRODUCT FROM MIRRORSOFT

I attended the first showing in the UK of the CD Rom version of DEFENDER OF THE CROWN, Cinemaware's classic masterpiece. CD Rom is a storage device that can hold 600 megabytes of data all contained on one CD disk. The new version of the game includes a stereophonic fully-orchestrated soundtrack, real motion picture sound effects, and an actor speaking through the storyline at relevant intervals. It really brings a new dimension to the games industry, and although it is in its infancy, the possibilities are fascinating. Meanwhile DEFENDER is now on sale on CD for around £40 and it requires an MS DOS compatible PC linked to a CD Rom drive.

ACTIVISION PRESENT FOUR NEWIES

Four fab sounding adventures are on their way from Activision. The first, MILLENIUM 2.2 is set in the year 2200 where The Earth has been rendered uninhabitable following a collision with an asteroid. You are located opn a moon base which supports over 100 crew, and using the resources you have or find you must bring the planet back to a life giving condition. With plenty of puzzle solving and tactical strategy, Millenium is as hard as it is pretty. The game is the brainchild of Ian Bird who created High Frontier.

Adventure

More Adventure!

LEISURE SUIT LARRY GOES LOOKING FOR LOVE is the next one, and follows on from the highly successful Leisure Suit Larry and the Lounge Lizards. This time our hero finds himself on a romantic cruise after winning a lottery. All is not fun, however, as there are spies from several countries nosing around, and trouble is bound to happen. This game features Sierra's new interpreter system SCI. MANHUNTER New York, comes next, and builds around the life of a detective in New York City two years after aliens invaded and took over the world. He has to track down humans and report subsersive activities. Features include split screen effects and advanced windowing capabilities. GOLD RUSH in the tradition of the KINGS QUEST series lets you relive one of America's most exciting eras. The adventure combines historical research and vivid imagination to capture the excitement of the Old West. There are three complete quests and colourful maps included in the package. Finally, POLICE QUEST II is near completion and puts you in the role of a police officer up against the odds. The Death Angel is back, the local jailer has been murdered and your girlfriend has been kidnapped. All this as well as ZORK ZERO and BATTLETECH means that Activision really are into adventure in a big way. Watch this space for reviews.

ANNUAL ADVENTURERS CLUB AWARDS

This month should be fun, as I have been invited to attend the Annual Adventurers Club Golden Chalice Awards for 1988 at the Sherlock Holmes Hotel in Baker Street, London. Present wil be a host of adventure people from software companies through to other adventure writers and club members. The winners will be reported in these pagees fear not.

NEUROMANCER FOR AMIGA

EA's Neuromancer has been released for the Amiga. Remember it got some rave reviews on the C64? I for one will be very interested to see if any improvements have been made.

FISH WINS ANOTHER AWARD

As if winning CCI OSKARS was enough FISH has scooped the best Foreign Adventure Game in Generation 4 magazine in France, with CORRUPTION coming second.

ADVENTURE MAILBAG

Dear Andy

Great column, but I think it would have been a good idea in February's issue to have put in screenshots for the games reviewed. I have been an adventure and RPG freak for a long time and if screenshots were included then we could see for ourselves what the game looks like. I say this because some people think that enormous playing space and character interaction is the sole priority of these games. I played Bards Tale III on my friend's 64 and it totally blew me away. I will buy the whole series when it comes out on the Amiga.

Ian (the Dwarf) Deneviraine, London.

I take your point about screen shots Ian but unfortunately, as I write so much copy there seems little room for any pics! But I hear you, and we'll see what can be done.

A.M.

Dear Andy

I am an American reader, and I have had Pools of Radiance longer than anyone in Britain, so I figured I would send in some tips.

1. General Tips

You should have 1 Human Male Fighter, 1 Elven Female Fighter/Magic User, 3 Male Half Elven Fighter / Magic User / Clerics and 1 Dwarven Fighter / Magic User / Thief. On the first level modify all of your characters up to 18 (100) 19, or 17.

2. Adventuring

First go to the shops and buy branded armour and a long sword for everyone. Then go to the City Council and get some commissions. Go to the slums and keep on going back and forth until you clear it of monsters, by the way don't bother to collect any copper it's a waste of weight. Do not go into the wilderness until you have cleared not only the slums but Kutos Well and Podal Plaza.

3. The Dragons Cave

If you go to the source of the Stojanous River, you will see a dragon fly overhead. Move forward and you should find a cave where he will let you say what your quest is for. Select either to pledge service to him or ask his advice, as anything else will get you killed. He will send you to the Kobold Caves to get a bottle, and will reward you on your return.

4. Pollution Problems

The pyramid is where Yarash the Sorcerer lives, mutilating Lizardmen and other things in his experiments. The password to get in to see him is NOT NOW. Yarash is nowhere near as powerful as he says he is, he's just a 5th level magic user with 20 HP and an armour class of 9. Just get a fighter next to him and he wil kill Yarash in 1 or 2 shots. Afterwards you will find some pipes with black liquid in them. Destroy the equipment and run! The explosion will lose you some hit points but it will stop the pollution of the river. Now you can cross it safely. In the middle of the woods NE in the swamp lies the Golden Castle.

I am 12 years old and my name is Adam Dorr, but my friends call me AJ or AD. Thanks a lot for reading my letter, yours sincerely, CCI fan Adam.

That tips letter is certainly the longest I have ever received, Adam, so long in fact that there was not enough room for all the 27 sections you sent me. It must have taken you a long time to write it all out so as a token of my gratitude, I am sending you a game as a prize. Well done.

AM.

SOLUTION TO MANIAC MANSION

Courtesy of Jerome Koene and The Gerkin

Using Michael and Bernard

Open the door without the handle by pushing the gargoyle. You will get the key from the glass chandelier by recording a record with the high tone

(green tentacles room) and playing it at the glass chandelier. The paint remover will reveal a secret door at the man eating plant. The green tentacle likes wax fruit. The think-o-matic machine will make you much stronger, you can now open the garage door and the grating behind the bushes. The water from the swimming pool and the can of Pepsi provide an unusual ladder by pouring them on the man eating plant. with his tools and flashlight, Bernard can fix the broken wires if the power is shut down (fuse box). A video game reveals the code to the inner door (the outer door is opened by the glowing from the swimming pool). Outside the house you will find the plans of Weird Ed but they need to be developed first. Weird Ed will help you against the purple tentacle if you give him the plans first. To get rid of the meteor, open the old-fashioned radio, get the radio tube, fix the transmitter with the radio tube, look at the wanted poster for the number of the Space Police. Call them with the radio and your meteor will be removed.

SOLUTION TO BARDS TALE II PART 1

The Dark Domain level 1

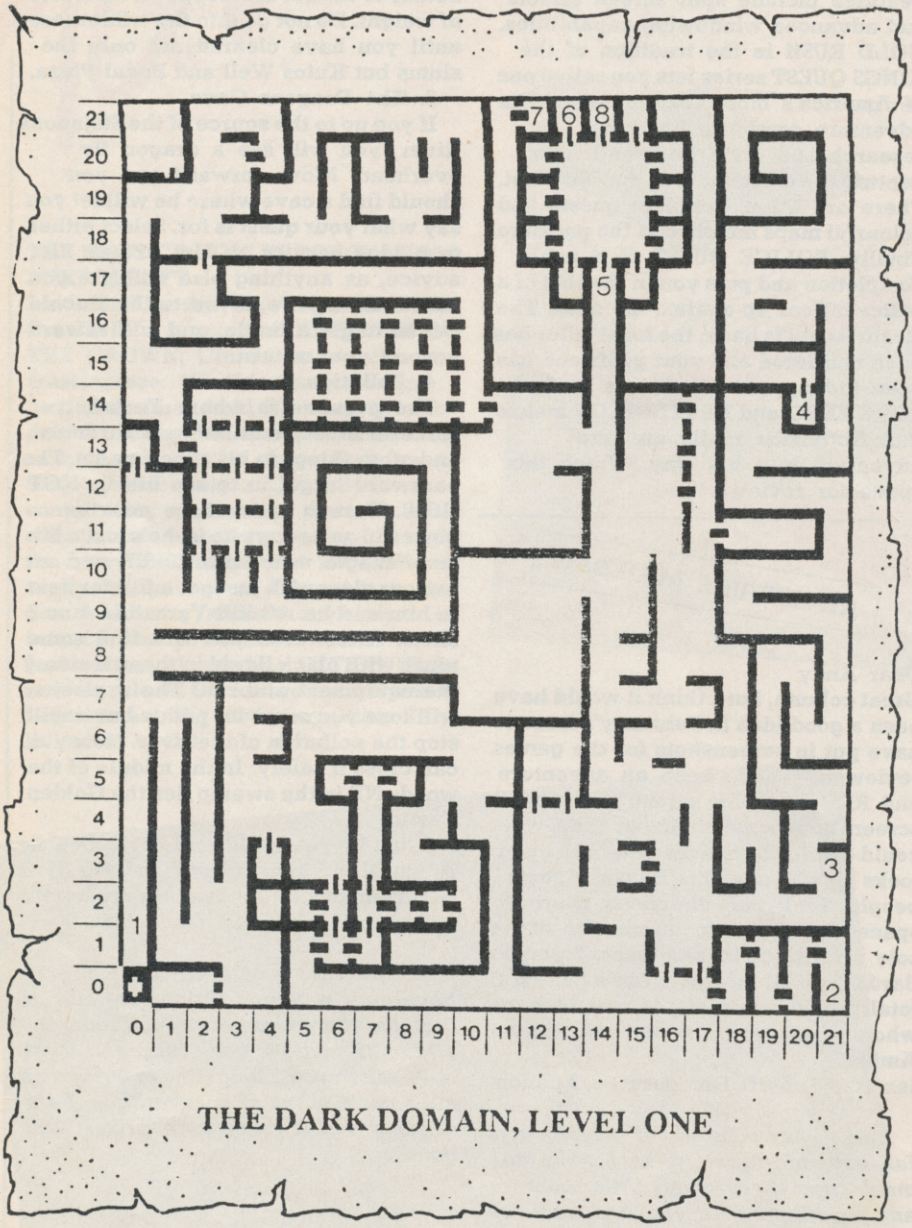
Our party is assembled inside a building on Clamore Street in Tangramayne. The magician who meets us there has told us that the daughter of the mighty King Endor has been kidnapped by the Dark Lord. If the Princess is found and returned to him we will all receive many experience points. Meric charges forward and I and the others follow.

1. The party came across a magic mouth that warned "turn back adventurers, you are not the first and will not be the last to attempt to save the Princess". We ignored the foul thing and continued.

4. In this room a message appeared, "in areas unpassable, seek entrance by phase door to learn the secret of the double doors".

6. In this room Andreas casts a phase door spell, and as we passed through the misty wall an old man appeared "below you now thrice count the floors, play the last for the double doors", then he vanished!

8. We entered this room directly across from the entrance and found stairs. We descended .....TO BE CONTINUED.



THE DARK DOMAIN, LEVEL ONE

ADVENTURE REVIEW

MORIA

Richard Henderson,
2537 Hazelwood Avenue, Kettering, Ohio USA.

Moria was sent to me by the esteemed above person from America, and reflects the current craze in the States for D and D type adventuring. Moria is a dungeon game in the manner fof Rogue, Hack and Larn, and was originally created for a VAX 780. The game was used extensively on their Bulletin Board System where friends could upload the game using their local network and play away. This version for the dedicated adventurer without modem access has been written for the Amiga as a play alone package.

The quest (there always has to be a quest) is for you to destroy the Balrog that lurks in the dungeons below your village. You can choose from a number of races and classes when creating your character, and your start up depends on the particular stats of your chosen hero. There are a host of interesting new commands like Tunneling, you may find a vein of rich ore to mine, all you need is that nagic shovel you missed a few rooms back! A Bash command is useful for opening locked doors or chests and helps kill off a few monsters too.

Graphically, the game is nothing special to look at, particularly when you know what the Amiga is capable of, but this game is really for the dedicated D and D player who is more interested in character development, and a helpful bag of commands rather than pretty pictures.

PERSONAL RATING 5

THAT'S IT FOR THIS MONTH, KEEP THOSE LETTERS COMING, AND DON'T FORGET, IF ADVENTURE IS YOUR FAVOURITE HOBBY, YOU'LL FIND EVERYTHING YOU NEED TO KNOW RIGHT HERE IN THESE PAGES. KEEP IN TUNE.

KEYFIG

Chris Wright of I.C.P.U.G. looks at the KEYFIG file.

How many of you have looked at the KEYFIG file or even booted it up but gone no further? I think there must be very many. This is one of the unique features that comes with your C-128 machine with CP/M, easy to play around with and very useful. There on your systems disk is a couple of files called KEYFIG.COM and KEYFIG.HLP which are including for the purposes of redefining your keyboard. Within CP/M+.SYS file are definitions of every key on the keyboard. There are a great many users unaware that every single key (three exceptions), is redefinable. KEYFIG does just that.

Run KEYFIG and when asked for help answer yes. You are then presented with a menu of 14 help topics. Using the top cursors, go down them all paging each one up in turn and read them. If this is your first time using KEYFIG you are advised to read all the help files first.

After choosing 'done help' you are asked whether you want the default key definitions or the ones in the CP/M+.SYS file. Unless you have already altered them they will both be the same. Choose 'edit a key' from the next menu and then every time you press a key on the keyboard you will be presented with the four current definitions for that key. These are normal, shifted, Commodore shifted and control. Initially the Commodore shifted values are the same as the ordinary shifted values but they don't have to be. Using the upper cursor keys, go down the selection to the one you want change and press ‹RETURN›. You can then do one of six things; assign a single character, assign a string, assign a special function, assign a hex value, assign a colour or leave the key with it's current definition.

To assign a character, you will be prompted to type the character to assign to this key and it will be done. You can for example define the keyboard for the 'Dvorak' typewriter keyboard if that is your wish. Assigning hex values and colours are self-explanatory. The help file gives you more information. Use PIP to print it out (see previous article on PIP). If you choose to assign a string, you will be given a list of 32 different strings to assign. Most say F2 or F8, no problem because you can also edit these strings. Most of you will realise that these assign are what others may call macros. Say you have a Word Processor that requires a few keystrokes to go to the end of a file. Type in the commands to a certain key, this is then stored on the boot disk and loaded in on booting the system. Just press that key when in the W.P. and you jump to the end of the file. No need to keep remembering the command. Usually this is to function keys but many of the CONTROL values are empty so use those as well.

There are 16 'Special Functions', seven of which are pre-defined but which you can reassign a key. An example would be CONTROL-ENTER (numeric keypad) will exit CP/M by also booting C128 mode. Another example is CONTROL-/ gives you a backslash (not on the 128 keyboard), CONTROL-: and CONTROL-; gives you curly braces and so on. Have a look and see what is available.

After this editing process, choose the 'quit and save' option and you are asked what you want to do. Save them onto the SYSTEMS disk so that they boot up each time; use them for this session only as the current definition or lastly forget and trash them. You are still given a chance to re-enter the program before the final exit. KEYFIG gives you a whole host of opportunities to put bells and whistles into the system as well as some really useful features. Try it and experiment for yourself. If you have read all the preceeding article you will by now have realised that there is more to CP/M than that intimidating A› prompt and I now hope that many more of you will enjoy getting more from the system that you ever thought was possible.

continued from page 40

'Computers — Tools For An Information Age'

by H.L. Capron (Benjamin/Cummings Publishing Co. Hardback £29.95/Paperback £17.95)

Computers — Tools For An Information Age. A fat, well-produced tome of over 650 pages. It details everything one could possibly wish to know about hardware, software, literacy, PCWs, languages, programming, who invented what — and when — and how it all works.

It is similar in some ways, (particulatly price-wise!), to 'Up And Running', written by Marilyn K. Popyk, which was published by Addison-Wesley and reviewed in our April issue, but 'Tools For An Information Age' differs from Ms. Popyk's book in that it comes with accompanying software and a supplements package — slides, etc — although these do have to be purchased separately.

If you just want to increase knowledge then the extras are not really necessary, for the enormous amount of information provided in the book, alone, is enough.

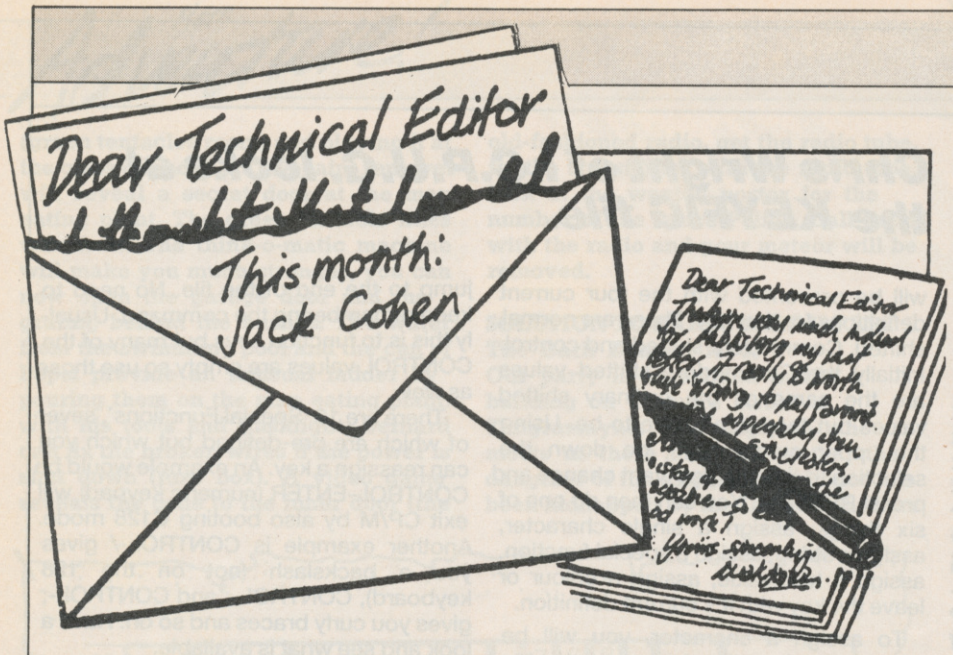
In addition to the normal text there are also 'windows' which give snippets about more unusual items. For example, computers being such a relatively modern invention, it is perhaps surprising to learn that there is already a computer museum. It is in Boston, Massachusetts, and it is no small place, either. There is over half an acre of hands-on and historical exhibits, two mini-theatres and a shop thawt, among other artefacts, sells — would you believe? — state-of-the-art silicon jewellery and chocolate 'chips'! (As CCI reputed on its foundation 2 years ago). And did you know that in the U.K. scientific researchers, with the aid of their computers, have invented a bionic 'nose' — shades of Lee Majors and the 'Bionic Man'! — that can distinguish subtle differences in fragrances?

There are also, in this all-embracing book, what are called 'Galleries'. Inserts of full colour — pages which illustrate special topics such as the making of microchips, computers as an aid to improving the quality of life, a look into the way the author feels the future of the computer will evolve etc.

Another useful chapter could almost be called 'Which Computer?' as it gives a breakdown of all the most popular brands, the pros and cons of owning different makes and a 'Buyers Guide'. By the way, it lists the Commodore 64 as 'one of the best-selling computers worldwide' and the Amiga has, and I quote, 'outstanding graphics and sound effects'.

Well written — in an easy-to-comprehend style — 'Computers — Tools For An Information Age' is the book for anyone who wants to become computer 'literate', (in both senses of the word). As computer books go it is not that expensive, that is if you buy the paperback version and, as an aid to understanding the plastic covered, glass-fronted, cyclops into which so many of us stare for so many hours in the day (and sometimes the night, too!), I would think this is an invaluable asset to anyone's collection.

DM



Dear Technical Editor,

When my 1541 started playing up I decided to get a new disk drive before I was left with nothing. Not being too keen on the Commodore drive I decided to try an Excellerator, the price being an influencing factor, Evesham Micros offering GEOS was an added bonus. The drive is great but I can't say the same for GEOS. Since CCI seems to be a fan of GEOS I wondered if you could help me with three main problems I have.

Firstly, the icon pointer is worked by a joystick in port 1. This is a major problem when using Geowrite since the space bar, comma and full-stop are disabled when the joystick is plugged in. Letters on the bottom row of the keyboard seem to work when they please, quite sporadically. The only way of working Geowrite is to unplug the joystick when typing, but this is very inconvenient.

I have an Epson FX-80 printer which, in the past I have used with a Printlink parallel interface. Unfortunately, GEOS uses serial interface. I was attracted by the Comprnt interface produced by Micro Control Systems, mainly because of the 8k buffer offered. The people at Micro Controls had never heard of GEOS but said that there had never been any problems with their interfaces as far as they knew. The Comprint works in either transparent mode or causes the printer to emulate an MPS-801. GEOS will not work in transparent mode, thus I cannot use the printer as an Epson. The MPS-801 mode is more promising but there are several nasty side effects. Firstly, with the printer switched on no programs can be loaded. The disk drive seems to be disabled until the printer is switched off. Printing will only occur if the printer is switched on just prior to executing a print. Requesting a print command with the printer switched on usually results in a system crash.

Use of the printer in MPS-801 mode is a problem when using Geopaint. Only 3/ of a picture can be printed and there seems to be no way of altering this.

The Excellerator has a convenient device number switch. When I had my 1541 finally repaired, I tried using two disk drives. GEOS will not accept drive 9. Both units work well individually but as soon as they are paired, 9 is ignored.

Finally, GEOS has a strange habit of crashing with a systems fault message. The address displayed is usually an area of RAM. The same address is raraely repeated. When a crash occurs the only remedy is to switch off and reload having to repeat all the lost work.

I got in touch with Evesham Micros who were very helpful but could only assist by exchanging the software. I have had my hardware checked and am assured that all is O.K. The only thing I can think of is that perhaps some of the memory locations in my C64 are non-compatible. The computer is one of the early ones, purchased in 1983 and manufactured in Germany.

Have you any suggestions or do I tip the GEOS in the trash can?

Yours sincerely,

J.J.Malinowski, Lincolnshire

P.S. This letter has been written in Vizawrite and as you can see, no problems.

Dear J.J.Malinowski,

Why not put a micro-switch on your joystick lead?

The solution to your printer problem is to use the Universal centronics interface from Meadmore.

This will cope with GEOS and other fast systems.

It also has dip switches forcontrol code manipulation if necessary.

What happens with other interfaces (not all, but some) is that signals are sent to the printer at a high speed and the printer cannot recognise the signals and act upon them.

The fault with recognition of the device number 9 is most probably due to a slight difference in the way the hardware modification is implemented in the Excellerator and the 1541. (I don't mean the jumpers)

It could be that adding a resistor to the circuit of the Excellerator could equalise the two drives.

Either go back to the firm that repaired your drive or contact Dave Barber Electronics (see our MAGENTA pages) for necessary mod.

You are correct, there are differences in early German made 64 which affect GEOS.

Check RAM memory locations after a cold start.

In the normal 64 they should be $00 and $FF written into RAM.

In yours you should find a different value and the writers of GEOS have not allowed for this difference.

In other words their software expects RAM to contain all $00 and $FF.

Write a routine for putting $00 and $FF into RAM before loading GEOS and this should cure the problem.

Use a short machine code routine in an unused area (obviously not the RAM you clear, unless using a self wiping routine).

Dear Technical Editor,

I have unexpectedly been given a CBM +4, 1551 disk drive, Datacassette and some incredibly mundane games on tape. I would like to use the computer as a personal, home and financial planner as well as for word processing and letter/report writing. But I would also like to play some of the more modern games like; Gunship, F15 Eagle; Red Storm Rising to name a few, is this possible on the +4?

Does anyone produce interesting and varied software or is an emulator program available, could you pass on the addresses of +4 publishers?

Could you also advise me on a suitable printer, one that I could use with a 64 or Amiga, if I upgrade at a later date and at a budget price? Another thing, could I use the disk with another computer also?

Why did the Plus 4 not take off like the 64? I'd like to know if I'm wasting my time with it.

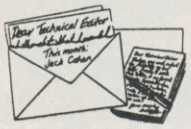
On another note, I'm having trouble getting used to the disk. I only have 2 blank disks and I cannot address them. I use the header commands but I only get syntax error and a red flashing light on the drive, could you also help me with this?

Yours faithfully and illiterately,

Gary Voelonfirth, Bristol

Dear Gary Voelonfirth,

Some of the software for the +4, which is still available from Audiogenic



on 01-861-1166 is as follows:–

Word Perfect, Graphics Designer, Musicmaster and Micro 16 assembler.

Other +4 software may still be available, even if not advertised, from software houses and here you can try some of those advertising in CCI for other machines.

Also write to the publishers of the games you mention and ask them if they have a +4 version.

For interesting and varied free software (not just games) why not join ICPUG (see advert elsewhere in this issue).

They maintain a public domain library for the +4 and all other Commodore computers (copying is free, members pay only the costs).

There are printers that one can use with Commodore computers, but the Amiga needs a different interface to the others.

For example, Star LC-10 are sold with parallel interface and are also sold with a Commodore interface as an alternative choice.

Best to buy the one with parallel interface because this can then be used with other computers (PC etc) as well as the Amiga direct.

In order to use it with the +4 and 64 you need a CBM serial to parallel interface converter.

Such converters are available from Meadmore Distributors on 051-521-2202.

Reverse interfaces are available in order to drive CBM serial printers from computer parallel output. This would be useful if you are offered a used printer, but the converter is more expensive.

The 1551 can only be used with the +4 or the C16 because it is a parallel drive not a serial one.

This does not mean that a conversion could not be produced, just that not enough 1551's were marketed to make the conversion worthwhile.

Try the old fashioned command for formatting a disk (which works on all Commodore drives except Amiga).

OPEN 15,8,15,"n0:diskname,id":CLOSE 15. (RETURN)

Dear Technical Editor,

I am a somewhat baffled Amiga user. I program in BASIC but I find that after a while the system locks up and prints a system request to finish all disk activity. Then a message appears with a red flashing border saying "Software Failure" and a "GURU MEDITATION" number, the system then resets, destroying several hours work. This is very frustrating! What is GURU MEDITATION? What causes it? Is there any way to stop it, if so how?

I am also the owner of a Commodore 64, I am considering buying an Amiga printer, I would like to be able to use it on the '64 but this requires an interface, there are many of these and I don't know which to get, there is 'SUPER-G' and other parallel to Centronics versions, also user port to Centronics, some are all hardware, some require software. Please help me choose.

Yours hopefully,

D.Gibb

P.S. The printer used for the above was my friends!

Dear D.Gibb,

From your description this would seem to be due to insufficient memory.

The solution is either to save your programming at frequent intervals, so that when the system locks and resets, you can power off.

Then power on and load the program. This should give the insufficient memory message.

If this is the case then you will needs extra memory for your large basic programs.

The extra memory boards can be obtained from Bytes & Pieces of 37 Cecil Street, Lytham, Lancs. FY8 5NN.

I suggest the Universal serial to parallel converter for fast drive systems etc particularly if using systems like GEOS or SPEEDDOS and others, available from Meadmore Distributors of Liverpool (041-521-2202) under their catalogue reference A0036. Price £39.95 including VAT and delivery.

They also have a NORMAL interface with 8k buffer for standard systems under reference A0036B. Price £44.95 including VAT & delivery.

Dear Technical Editor,

After being a faithful reader of your magazine for about a year and a half, I must say I'm very impressed with the standard of the mag.

But the real reason for writing this letter is that I'm going to London this Summer, you see, and I've thought about the idea of upgrading to a disk drive. And what place could be better to do that than in London?

I've seen quite a few advertisements about drives and I would like to buy an Oceanic OC-118 (previously sold as Excelerator +) or a 1541. In this case I have a few questions for you.

1. Which of them are best value for money? The Oceanic or the 1541?

2. What is the RRP on each of them?

3. Can you give me an address to a shop in Central London that sell these disk drives?

4. What is the best cartridge around? I want fast loading of games and much "power"

5. Can you name a shop in London that have a big selection of games? Games like Microprose's "Red Storm"

Microprose is without doubt the best company. All their games are great.

It would be splendid if you could answer these questions in the next issue of your superb mag.

Yours sincerely

Svein Jarle Nymark, Norway

Dear Svein Jarle Nymark,

1. In my opinion, the Oceanic OC-118 is the better of the two.

2. There is no RRP at present, but the Oceanic is available for a lot less than the 1541C.

3. Try the micro shops in Tottenham Court Road, London W1, who will have them in stock. There are several within very short walking distance.

4. Try the Freeze machine because this is being supplied with the Oceanic at a special price.

5. See the answer to '3' above.

Dear Technical Editor,

I have just read the letter from W.J.MARTIN and also your reply which was trying to explain about the jumpers in the COMMODORE 1520 Printer Plotter; but the relevant information about the device numbers was not printed in my copy of the FEBRUARY COMMODORE COMPUTING INTERNATIONAL.

The other items I would like to ask your advice upon is that I own a VIC20, 2 x C64 and a C16; now I am going to join my wife in BRITISH COLOMBIA and I would like to know what aprt from the relevant video chips and the timing crystals what else would I need to change to enable me to utilise these computers on an N.T.S.C. standard television.

Yours faithfully,

C.R.Taylor, Cumbria

Dear C.R.Taylor,

First apologies for printers omission of drive numbers.

Device 4 – no cuts. Device 5 – jumper 1 cut. Device 6 – jumper 2 cut and Device 7 – both jumpers cut.

You will need a modulator and power supply (if they are not on 240v).

Unless you have a lot of software I do not believe that it is a good idea to take the computers with you to British Columbia.

If it is difficult to obtain computers then that is different.

The cost of the mods and additional parts needed may amount to more than the secondhand cost of different computers.

continued on page 84

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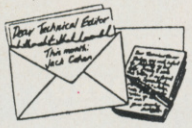

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Dear Technical Editor,

I am the proud owner of a C64 computer and disk drive, monitor etc.

I read your column when ever I can get the CCI mag. I am only 12 and I have a few problems I want to ask your advice on.

1. My disk drive is the good old 1541. I have the manual and about 20 books on the C64. I enjoy games etc. and understand how to write them but I can't because everytime I enter a data line and write about 20 lines, finish, type run and all it does is say ready. I know it is an OPEN command I'm looking for so could you please write back, I am very anxious to get on programming. And also if I should wite a program so long, could you please tell me why my disk drive won't save when I write the following, SAVE "NAME",8. Is there also an open command needed?

2. I also enjoy writing stories and when I typed a very nice one in, run it, the words flashed past.

I have seen a story in a computer store where you only had to press space and you would see maybe 2 paragraphs each time you pressed it.

I assure you that if I should write a game you will be the first to recieve a copy.

Thankyou,

Patrick Hallermann, Australia

P.S. One more question. If I wanted to write an adventure, would I use GOTO?

On my old computer a Tandy 3 Uggh! Yuk!!

You wrote 5 A$="You are in front of a house, what now?" Return

10 IF A$="N" THEN GOTO 30 ELSE IF A$="S" THEN 20 return

30 "There is a sword here, what now?" return

Dear Patrick Hallermann,

1. If I understand you correctly you want to know how to use DATA statements. As many DATA statements as required can be used subject to available memory.

The syntax is DATA list of data seperated by commas.

Example:– 100 DATA hello, how are you?, what is your name, etc

110 DATA end

The data can be either numeric or string.

Commas,colons, and other controls can be included by enclosing them in quotes.

The program will then treat them as data and not as commands to act upon.

To use DATA statements the word READ must be used, followed by a variable (either numeric or string depending on the type of data being read.)

To deal with the data in lines 100-110 above we must use a string variable.

An end of data marker is best to use so that you do not get an 'OUT OF DATA' message and resulting program crash.

Besides reading in the data into variables (an array variable is best suited to hold all the data until it is processed), an OUTPUT routine is essential.

This routine can be to screen, printer or disk and of course any combination of these.

Output can also include MODEM and cassette port as well.

I give a simple example below.

```
10 c=0:j=0:DIM X$(500):REM this array size depends on the number of data items
20 READ X$(c):IF x$(c)="end" THEN 200
30 c=c+1:REM counter for data items
40 GOTO 20
200 FOR j=0 TO (c-1)
210 PRINT X$(j):REM prints each item on seperate lines or use X$(j)" "; to print on same line with space in between.
220 NEXT j
300 DATA hello, how are you, end
```

Code can be added to count the number of characters and do carriage returns and line-feed after say 39 characters or less for the 64 screen.

For the printer say 79 chracters or less and so on.

I assume that LOADing programs is no problems for your drive.

If so, then SAVE"name",8 should work unless the name already exists on the disk.

If using upper/lowercase then type all keywords in lowercase.

Do not type Save"name",8 ! as this will not work.

This is again of counting characters and lines.

Print a screenful of words (less a line for prompt if you wish) and then use

```
100 GET A$:IF a$="" THEN 100
110 IF A$=chr$(20) then PRINT CHR$(147):RETURN REM clear screen
120 GOTO 100
```

This routine waits for the spacebar to be pressed, then clears the screen and returns to the main routine which will print the next screenfull (or as little as you want).

The 64 does not have IF THEN ELSE construct as part of its basic.

Instead conditional line is written separately as in line 110 with additional conditions in a similar style before branching back in line 120.

Dear Technical Editor,

I am trying to use an Ibico printer with my Commodore 64. It was marketed by Saga Ltd., when they existed, as their LTR-1 printer. It has characters on a cylinder giving output akin to a daisy-wheel printer.

The unit does not have any dip switches and it cannot within itself provide line-feeds.

The printer was used successfully with a Sinclair Spectrum. Before loading an applications program into the Spectrum the code COPY:REM/1 was entered. Then a line feed occurred with every carriage return. I understand the code set up the Kempston E printer interface.

Can you advise if there is such a code applicable to the C64?

Yours Sincerely,

L.Thomas, Kent

Dear L.Thomas,

To produce a line-feed on a Non CBM printer (without line-feed).

Use a logical file number of 128 or greater (max 255).

For example use OPEN 200, 4:PRINT#200,"OK".

This will result in the 64 sending a line-feed to the printer.

I assume that you have the correct interface for your setup.

Dear Technical Editor,

Mayday – S.O.S – Help!

I have a 1581 disk drive (3½" media) that I use with a C64. The problem is when I have a tape deck connected the drive hucks up and I have to keep typing in:–

```
OPEN 15,8,15:PRINT#15,"U0>B0":CLOSE 15,8,15
```

Please can you tell me what this actually does to the drive and which chips it affects.

Can this be done by hard wiring inside the drive if so which chips & which pins, as I use the drive with packet radio and it is most annoying when the system hooks up during a radio contact.

(P.S. The AM 7910 modem is connected to the tape port)

Last but not least (impossibility time) is it possible to take the eight serial data lines out from the drive before the chip that condenses them to 1 line, if so where in the drive should this be done and where should they connect in the computer (this is for 1541 & 1581, I already have Dolphin.)

Can I have some circuit diagrams please for C64 & the two above mentioned drives. Grovel, Grovel.

Cheers,

Andy, South Humberside.

P.S. Your tech page is great.

P.P.S. Packet Radio is used by amateur radioists.

Same as normal people use modem & telecom.

We have our own B.B.S. & Mail Boxes. We also have Digi-Peaters that allow us

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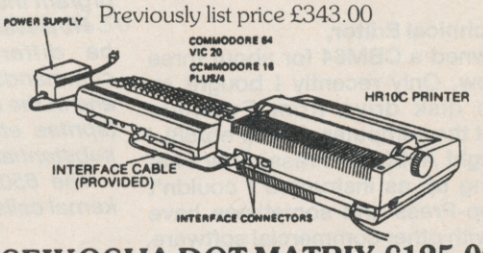

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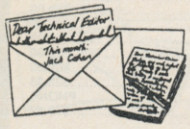

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to connect to B.B.S. a great distance away. The software for the C64 is PD and the modem costs about £30 to build. You do not need a licence to recieve but you do if you want to transmit.

The software allows us to access each others disk drives, to take programs off their stations onto ours and to send information to the other station if set up in a certain way, anything connected to the computer i.e. disk drive, printer, cvan be switched on and off.

If more info required please contact BARTAG or any amateur radio group.

Dear Andy,

I think this line PRINT#15,"U0>B0" sends a job to the processor, and if this is the case the B0 means 'go seek any sector'.

This would then enable the processor to regain control.

I think that this is again a timing problem in that the designers of the fast 1581 drive did not expect a cassette drive to be used as well asa the disk.

Can you use a different port?

I suggest you get the 1581 handbook which may help, and there is also the 1581 DOS ref guide by David Martin (this one is included free if you buy the 1581 Tool Kit at £34.95 from Financial Systems Software on 0386-553153.

If the books don't help then write to Mr Loren Lovehaug, Twin Cities, PO 4625, St.Paul, MN55104, USA for the impossible problems on the 1581.

Dear Technical Editor,

I've owned a CBM64 for about three years now. Only recently I bought an Oceanic disk drive from Evesham Micros at the computer show (Feb/88). I also bought AMX Stp-Press. After I set eberything up as instructed I couldn't load Stop-Press and sometimes have trouble with other commercial software. Everything that had been saved by my drive loads without problems at all. Please tell me what's wrong and how can I repair it. Is there any place in London that can repair my drive. Can I use the Drive Doctor to see what's wrong. Please please help me.

Yours sincerely,
A.Heidary, London

P.S. PLease print this letter because I'm sure there are a lot of people out there with the same problem.

Dear A. Heidary,

Yes, there are a lot of readers with a similar problem.

The truth is that the software written for normal speed drives will ot always load with the newer fast drives.

So there is nothing wrong with your drives.

Best to contact the software publisher (or distributor) and ask if they produce, or are likely to produce a version for the faster drives.

Don't forget a lot of drives use non-standard routines not just for speeding up drives, but because of copyright problems if the resulting has identical routines to the 1541C.

Dear Technical Editor,

I have a Commodore 64 computer off which I have a teletext adaptor. I am interested in trying to convert the BBC Ceefax micro programs onto my computer.

Do you know of an adaptor for the Commodore from any other of your readers that can translate the BBC language into Commodore Basic.

I have written to BBC Telesoftware and they said my best bet was to write to a Commodore User Group as they would probably be able to help.

On Radio 4, two years ago they had a chip shop programme which was called Basic code 2 that I could pick up and transfer into my commodore with the aid of a translate programme suitable for the 64.

I am enclosing a copy of a print out which shows what I can recieve at present.

Yours faithfully,
A.R.Clarke, Suffolk

Dear A.R. Clarke,

If any readers know of such a program then please write in with the details. If the program was a simple BASIC prgram then it would be fairly easy.

However PEEKS, POKES etc would be different and with advanced commands it becomes more difficult and in the end the full facilities of the 64 (sprites etc.) cannot be used without substantial reqriting of the programs.

The 6502 is the same, but without kernal calls etc.

Dear Technical Editor,

I am the owner of a C16 and a regular reader of CCI.

I would like to use C64 games on my C16 and I wondered if I put a RAM on the C16 to boost the K up to 64 would I be able to use 64 games.

Please could you print this as I am sure a lot of C16 users would like to know.

Yours faithfully,
E.Stock, Wales

Dear E.Stock,

The answer is no.

Most 64 games use sprites and you would need a complete 64 emulator.

Better to buy a used 64 and most probably a lot cheaper and less hassle.

Dear Technical Editor,

I have just bought the Newsroom package and I own a Commodore 64 and 1541 disk drive using an Epson LX-80 printer and a centronics cartridge and I find that it will not work. I made a lead for the serial port on the disk drive but that will not work either so could you please tell me how I can get over this problem with my Newsroom package.

I have the Superscript, Easyscript & the Image system and they all work on the centronics so your technical advice would be much appreciated.

Thank you,
Yours faithfully
W. Ford, Nuneaton

Dear W. Ford,

I suspect the centronics cartridge not being compatible with Newsroom, probably because the routines inside Newsroom not being transmitted correctly to the printer. Early versions of Newsroom had bugs in the printer driver routines. You have not named the centronics cartridge so I cannot help you further without knowing the make.

Try FSSL on 0386-553153 or Meadmore or write again to me with the information.

Dear Readers,
We know you've got news and views. We know you've got ideas and opinions. We know you've got gripes and criticisms.

So why not let everyone know?

Send us your thoughts (printable ones please!) and we'll include them on our letters page.

Write to us at 40 Bowling Green Lane London EC1R ONE – Soon!

Yours,
C.C.I.

Ice Hockey

Christopher Doig

Christopher has written a management style game for the +4 showing the power of the basic V7 in the command of the screen and graphic layouts. You might like to tweak the odds slightly in your favour as they are just a little stiff here. It is quite long (10 pages in all) so we are printing it in two sections. Part II will follow next month.

```
2 FORT=1TO537:READA:TL=TL+A:NEXTT
3 IFTL<>63682THENPRINT"****[CTLB]DATA ERROR[CTLO]****":END
5 COLOR4,1:COLOR0,2,0:RESTORE120
10 PRINT"[CYN][CLR][CD3][SP4]THIS IS PART 1 OF ICE HOCKEY."
15 PRINT"[CD][SP3]ALL THAT THIS PART CONTAINS IS"
20 PRINT"[CD][SP3]THE MACHINE CODE NEEDED FOR PART"
25 PRINT"[CD][SP4]TWO - THE MAIN PART OBVIOUSLY."
30 PRINT"[CD][CTLB][DGRY][SP9]PRESS THE SPACE BAR."
35 IFPEEK(198)=60THEN40:ELSE35
40 PRINT"[CU][CYN][SP3]ONCE THIS PROGRAM HAS FINISHED"
45 PRINT"[CD][SP3]YOU MUST TYPE 'SYS32768'.THIS"
50 PRINT"[CD][SP2]WILL CLEAR THE MEMORY OF PROGRAM"
55 PRINT"[CD][SP2]BUT NOT THE ACCTUAL MACHINE CODE"
60 PRINT"[CD][SP3]AS YOU WILL SEE ONCE YOU HAVE"
65 PRINT"[CD][SP9]FINISHED BOTH PARTS.[DGRY]"
70 MCODE=14343
75 PRINTCHR$(8)
80 POKE52,59:POKE56,59
85 FORN=0TO30:READA:POKE1630+N,A:NEXT:SYS1630
90 FORN=1TO506
95 READA
100 IFA=999THENMCODE=14510:NEXT
105 IFA=888THENMCODE=14557:NEXT
110 POKEMCODE+N,A
115 NEXT
120 DATA160,0,132,212,132,214,169,208
125 DATA133,213,169,56,133,215,162,3
130 DATA177,212,145,214,200,208,249
135 DATA230,213,230,215,202,16,242,96
140 DATA24,24,52,68,76,146,226,0
145 DATA252,66,68,62,66,66,124,0
150 DATA62,70,194,192,192,224,126,0
155 DATA252,66,66,66,68,100,88,0
160 DATA252,70,64,112,64,70,124,0
165 DATA254,166,114,120,96,96,112,0
170 DATA62,66,192,192,198,194,126,0
175 DATA204,196,76,188,200,204,206,0
180 DATA120,48,56,56,24,56,44,0
185 DATA14,2,2,2,2,68,120,0
```

cont. on next page

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```
190 DATA198,76,88,112,72,92,206,0
195 DATA224,96,64,96,96,66,254,0
200 DATA198,170,146,146,130,130,130,0
205 DATA198,226,114,186,156,142,198,0
210 DATA56,68,130,130,130,130,124,0
215 DATA92,194,194,196,216,192,64,0
220 DATA124,130,130,130,138,134,126,0
225 DATA92,194,194,196,216,236,130,0
230 DATA62,66,152,100,2,132,248,0
235 DATA222,146,16,16,16,24,28,0
240 DATA140,132,132,132,132,140,118,0
245 DATA134,130,130,130,130,68,56,0
250 DATA130,130,130,146,146,170,198,0
255 DATA198,238,124,56,124,238,198,0
260 DATA194,70,68,40,16,48,112,0
265 DATA246,142,28,56,112,224,222,0,999
270 DATA124,130,130,0,130,130,124,0
275 DATA2,2,2,0,2,2,2,0
280 DATA124,2,2,124,128,128,124,0
285 DATA124,2,2,124,2,2,124,0
290 DATA130,130,130,124,2,2,2,0
295 DATA124,128,128,124,2,2,124,0
300 DATA124,128,128,124,130,130,124,0
305 DATA124,2,2,0,2,2,2,0
310 DATA124,130,130,124,130,130,124,0
315 DATA124,130,130,124,2,2,124,0,888
320 DATA255,255,255,255,255,255,255,255
325 DATA85,170,85,170,85,170,85,170
330 DATA85,171,87,175,95,191,127,255
335 DATA170,85,171,87,15,15,15,15
340 DATA170,85,170,85,0,0,0,0
345 DATA170,85,170,85,160,80,160,80
350 DATA160,80,160,80,160,80,160,80
355 DATA15,15,15,15,255,255,255,255
360 DATA160,80,160,80,175,95,191,127
365 DATA0,0,255,0,0,255,0,0
370 DATA0,0,1,1,1,1,0,0
375 DATA0,0,128,128,128,128,0,0
380 DATA31,63,52,50,63,63,48,31
385 DATA128,192,192,192,192,192,192,128
390 DATA15,48,127,255,239,239,239,239
395 DATA0,192,224,240,112,112,112,112
400 DATA0,0,255,255,255,255,0,0
405 DATA255,255,255,255,0,0,0,0
410 DATA255,254,253,250,0,0,0,0
415 DATA15,31,51,109,109,243,255,255
420 DATA192,248,252,254,255,255,255,254
425 DATA255,227,227,99,127,127,63,47
430 DATA128,64,32,255,145,209,206,128
435 DATA3,31,63,127,255,255,255,127
440 DATA240,248,204,182,182,207,255,255
445 DATA1,2,4,255,137,139,115,1
450 DATA255,199,199,198,254,254,252,244


5 PRINTCHR$(8)
10 POKE65298,192:POKE65299,(PEEK(65299)AND3)OR56
15 COLOR4,1:COLOR0,2,0:ACC=2000:AP=1:LOAN=0
20 INPUT"[LGRY][CLR][CD12]TYPE IN MANAGERS NAME";MGR$
```

```
25 MGR$=LEFT$(MGR$,14)
30 COLOR1,2,3
35 PRINT"[CLR]▬▬▬
```

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```
295 GOTO265
300 FORN=1TO8
305 IFVAL(P$)=NTHENP$=N$(N):CHECK=1:Z=N
310 NEXTN
315 IFCHECK<>1THEN320:ELSE345
320 PRINT"[HOM][CD20][CR13]"+CHR$(27)+CHR$(84)
325 PRINT"[CD][CR24]"+CHR$(27)+CHR$(66)
330 PRINT"[HOM][WHT]TYPE IN YOUR TEAM NAME."
335 INPUTP$:Z=9:PRINT"[CLR]":TEAM=9
340 IFLEN(P$)>=8THENP$=LEFT$(P$,8):ELSEQ=8-LEN(P$):FORT=1TOQ:P$=P$+" ":NEXTT
345 OPPO=INT(8*RND(1))+1
350 FORN=1TO8
355 IFOPPO=NTHENB$=N$(N):V=N:CHECK=2
360 NEXTN
365 IFZ=VTHEN345
370 IFCHECK<>2THEN345
375 IFREP=1THENRETURN:ELSEREP=1
380 TEAMS$(1)="[MGRY]MURRAYFIELD RACERS "
385 TEAMS$(2)="[BLU]FIFE FLYERS[SP8]"
390 TEAMS$(3)="[RED]GLASGOW EAGLES[SP5]"
395 TEAMS$(4)="[CYN]DUNDEE TANKERS[SP5]"
400 TEAMS$(5)="[PUR]CLEVELAND BOMBERS[SP2]"
405 TEAMS$(6)="[ORNG]NOTTINGHAM PANTHERS"
410 TEAMS$(7)="[DGRY]DURHAM WASPS[SP7]"
415 TEAMS$(8)="[LGRY]WHITLY WARRIORS[SP4]"
420 IFTEAM=9THENTEAMS$(9)="[YEL]"+P$+"[SP11]"
425 PRINT"[HOM2][CD]"
430 FORT=1TO15:PRINT"[CR6][SP28]":NEXTT
435 PRINT"[WHT][HOM][CD20][CR2]"P$
440 PRINT"[RED][HOM][CD3][CR10]♥| [SP16][BLU]♠♣"
445 PRINT"[RED][CR10]╱╳[SP16][BLU] |♦"
450 PRINT"[CD][CYN][CR11]* - NEW MANAGEMENT"
455 PRINT"[CD][CR11]A - TABLE"
460 PRINT"[CD][CR11]B - INFORMATION"
465 PRINT"[CD][CR11]C - CONTINUE"
470 IFPEEK(198)=60THEN425
475 IFPEEK(198)=49THEN845
480 IFPEEK(198)=10THEN510
485 IFPEEK(198)=28THEN555
490 IFPEEK(198)=20THEN610
495 IFACC<847THEN870
500 IFLOAN=1ANDACC>5000THENLN=LN-1:ACC=ACC-1:IFLN=0THENLOAN=0
505 GOTO470
510 PRINT"[HOM][CD4]"
515 FORT=1TO11:PRINT"[CR6][SP28]":NEXTT
520 PRINT"[HOM][CD5][CR16] TABLE"
525 PRINT"[CR16]╰╮╮╮╮╯[LRED]"
530 BRD=0:FORT=SCBRDTO0STEP-1:FORN=1TOTEAM
535 IFT=P(N)THENPRINT"[CR8]"TEAMS$(N)"[SP2]"P(N):BRD=BRD+1
540 IFBRD=9THEN550
545 NEXTN,T
550 GOTO470
555 PRINT"[HOM][CD4]":FORT=1TO12:PRINT"[CR6][SP28]":NEXTT
560 PRINT"[HOM][CD5][CR14]INFORMATION"
565 PRINT"[CR13]╰╮╮╮╮╮╮╮╮╮╯"
570 PRINT"[CD][CR8]MANAGER : "MGR$
575 IFLOAN=1THENPRINT"[CD][CR8]BANK LOAN: "LN
580 IFLOAN=1THENPRINT"[CU][CR19]£"
585 PRINT"[CD][CR8]ACCOUNT : "ACC
590 PRINT"[CU][CR18]£"
```

Starfield, Screen Scroll and Scroll Message

Steve Patullo

Steven Patullo, one of our regular talented program contributors, has sent us these very interesting and fairly short routines (mainly demo types), showing the use of sprites and various types of screen scrolling for the 64. Well done, Steven.

```
10 PA = 49152 :REM START ADDRESS
20 LN=1000:CT=0:CK=0: REM ZERO CHECKSUM AND COUNTER
30 READ A
40 CT=CT+1:IF CT=9 THEN 80
50 IF A>255 THEN 100
60 IF A=-1 THEN END
70 CK=CK+A:POKE PA,A:PA=PA+1:GOTO30
80 IF CK<>A THEN PRINT "CHECKSUM ERROR IN LINE ";LN:END
90 CK=0:CT=0:LN=LN+10:PRINT LN:GOTO 30
100 PRINT "DATA RANGE ERROR IN LINE ";LN:END
1000 DATA 032,217,193,120,169,127,141,013,1012
1010 DATA 220,169,080,141,020,003,169,192,0994
1020 DATA 141,021,003,169,001,141,026,208,0710
1030 DATA 141,025,208,173,064,003,141,018,0773
1040 DATA 208,173,017,208,041,127,141,017,0932
1050 DATA 208,088,096,000,000,000,000,000,0392
1060 DATA 000,000,000,000,000,000,000,000,0000
1070 DATA 000,000,000,000,000,000,000,000,0000
1080 DATA 000,000,000,000,000,000,000,000,0000
1090 DATA 000,000,000,000,000,000,000,000,0000
1100 DATA 173,025,208,041,001,208,003,076,0735
1110 DATA 049,234,141,025,208,173,018,208,1056
1120 DATA 201,050,240,016,201,100,240,046,1094
1130 DATA 201,150,240,069,201,200,240,092,1393
1140 DATA 201,255,240,115,169,001,141,147,1269
1150 DATA 193,162,000,160,000,189,148,193,1045
1160 DATA 157,000,208,232,224,016,208,245,1290
1170 DATA 173,212,193,141,016,208,169,100,1212
1180 DATA 141,018,208,076,049,234,162,000,0888
1190 DATA 189,164,193,157,000,208,232,224,1367
1200 DATA 016,208,245,173,214,193,141,016,1206
1210 DATA 208,169,150,141,018,208,076,188,1158
1220 DATA 254,162,000,189,180,193,157,000,1135
1230 DATA 208,232,224,016,208,245,173,215,1521
1240 DATA 193,141,016,208,169,200,141,018,1086
1250 DATA 208,076,188,254,162,000,189,196,1273
1260 DATA 193,157,000,208,232,224,016,208,1238
```

cont. on next page

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```
1270 DATA 245,173,216,193,141,016,208,169,1361
1280 DATA 255,141,018,208,076,188,254,169,1309
1290 DATA 001,141,147,193,162,000,160,000,0804
1300 DATA 189,148,193,056,249,006,194,157,1192
1310 DATA 148,193,176,009,173,212,193,077,1181
1320 DATA 147,193,141,212,193,024,046,147,1103
1330 DATA 193,200,232,232,224,016,208,224,1529
1340 DATA 169,001,141,147,193,162,000,160,0973
1350 DATA 000,189,164,193,056,249,006,194,1051
1360 DATA 157,164,193,176,009,173,214,193,1279
1370 DATA 077,147,193,141,214,193,024,046,1035
1380 DATA 147,193,200,232,232,224,016,208,1452
1390 DATA 224,169,001,141,147,193,162,000,1037
1400 DATA 160,000,189,180,193,056,249,006,1033
1410 DATA 194,157,180,193,176,009,173,215,1297
1420 DATA 193,077,147,193,141,215,193,024,1183
1430 DATA 046,147,193,200,232,232,224,016,1290
1440 DATA 208,224,169,001,141,147,193,162,1245
1450 DATA 000,160,000,189,196,193,056,249,1043
1460 DATA 006,194,157,196,193,176,009,173,1104
1470 DATA 216,193,077,147,193,141,216,193,1376
1480 DATA 024,046,147,193,200,232,232,224,1298
1490 DATA 016,208,224,169,050,141,018,208,1034
1500 DATA 076,188,254,001,184,060,082,065,0910
1510 DATA 236,070,134,075,032,080,234,060,0921
1520 DATA 132,064,030,071,143,105,252,120,0917
1530 DATA 150,110,164,115,042,121,194,120,1016
1540 DATA 142,121,206,111,214,160,112,165,1231
1550 DATA 010,170,164,155,062,166,008,175,0910
1560 DATA 162,178,060,162,224,205,122,210,1323
1570 DATA 020,215,174,220,072,225,018,210,1154
1580 DATA 172,205,070,225,084,004,213,122,1095
1590 DATA 012,169,255,141,021,208,162,008,0976
1600 DATA 189,014,194,157,039,208,202,016,1019
1610 DATA 247,169,013,162,008,157,248,007,1011
1620 DATA 202,016,250,162,063,169,000,157,1019
1630 DATA 064,003,202,208,250,169,003,141,1040
1640 DATA 064,003,141,067,003,096,001,002,0377
1650 DATA 003,004,005,001,002,003,006,014,0038
1660 DATA 003,001,006,014,003,001,-1
```

```
10 PA = 49152 :REM START ADDRESS
20 LN=1000:CT=0:CK=0: REM ZERO CHECKSUM AND COUNTER
30 READ A
40 CT=CT+1:IF CT=9 THEN 80
50 IF A>255 THEN 100
60 IF A=-1 THEN END
70 CK=CK+A:POKE PA,A:PA=PA+1:GOTO30
80 IF CK<>A THEN PRINT "CHECKSUM ERROR IN LINE ";LN:END
90 CK=0:CT=0:LN=LN+10:PRINT LN:GOTO 30
100 PRINT "DATA RANGE ERROR IN LINE ";LN:END
1000 DATA 173,061,003,162,000,157,000,216,0772
1010 DATA 157,000,217,157,000,218,157,000,0906
1020 DATA 219,202,208,241,169,007,141,186,1373
1030 DATA 192,120,169,127,141,013,220,169,1151
1040 DATA 080,141,020,003,169,192,141,021,0767
```

```
1050 DATA 003,169,001,141,026,208,141,025,0714
1060 DATA 208,169,170,141,018,208,173,017,1104
1070 DATA 208,041,127,141,017,208,088,096,0926
1080 DATA 000,000,000,000,000,000,000,000,0000
1090 DATA 000,000,000,000,000,000,000,000,0000
1100 DATA 173,025,208,041,001,208,003,076,0735
1110 DATA 049,234,141,025,208,173,018,208,1056
1120 DATA 201,200,240,004,201,250,240,084,1420
1130 DATA 173,060,003,208,041,173,022,208,0888
1140 DATA 045,186,192,141,022,208,173,186,1153
1150 DATA 192,056,233,001,141,186,192,174,1175
1160 DATA 186,192,224,000,016,008,169,007,0802
1170 DATA 141,186,192,238,187,192,169,250,1555
1180 DATA 141,018,208,076,049,234,173,022,0921
1190 DATA 208,045,186,192,141,022,208,173,1175
1200 DATA 186,192,024,105,001,141,186,192,1027
1210 DATA 174,186,192,224,008,208,008,169,1169
1220 DATA 000,141,186,192,206,187,192,076,1180
1230 DATA 142,192,000,081,169,007,141,022,0754
1240 DATA 208,162,000,172,187,192,185,248,1354
1250 DATA 192,157,248,006,185,248,193,157,1386
1260 DATA 032,007,185,248,194,157,072,007,0902
1270 DATA 185,248,195,157,112,007,185,248,1337
1280 DATA 196,157,152,007,185,248,197,157,1299
1290 DATA 192,007,200,232,224,040,208,214,1317
1300 DATA 169,200,141,018,208,076,188,254,1254
1310 DATA -1
```

```
10 PA = 49152 :REM START ADDRESS
20 LN=1000:CT=0:CK=0: REM ZERO CHECKSUM AND COUNTER
30 READ A
40 CT=CT+1:IF CT=9 THEN 80
50 IF A>255 THEN 100
60 IF A=-1 THEN END
70 CK=CK+A:POKE PA,A:PA=PA+1:GOTO30
80 IF CK<>A THEN PRINT "CHECKSUM ERROR IN LINE ";LN:END
90 CK=0:CT=0:LN=LN+10:PRINT LN:GOTO 30
100 PRINT "DATA RANGE ERROR IN LINE ";LN:END
1000 DATA 169,252,133,251,141,060,003,169,1178
1010 DATA 192,133,252,141,061,003,120,169,1071
1020 DATA 127,141,013,220,169,080,141,020,0911
1030 DATA 003,169,192,141,021,003,169,001,0699
1040 DATA 141,026,208,141,025,208,169,200,1118
1050 DATA 141,018,208,173,017,208,041,127,0933
1060 DATA 141,017,208,088,096,141,017,208,0916
1070 DATA 088,096,017,208,088,096,000,000,0593
1080 DATA 000,000,000,000,000,000,000,000,0000
1090 DATA 000,000,000,000,000,000,000,000,0000
1100 DATA 173,025,208,041,001,208,003,076,0735
1110 DATA 049,234,169,001,141,025,208,173,1000
1120 DATA 018,208,201,240,240,008,201,252,1368
1130 DATA 240,052,201,000,240,069,169,015,0986
1140 DATA 141,032,208,141,033,208,173,022,0958
1150 DATA 208,041,248,013,064,003,141,022,0740
1160 DATA 208,206,064,003,174,064,003,224,0946
```

cont. on next page

continued from page 93

```
1170 DATA 255,208,003,076,150,192,169,252,1305
1180 DATA 141,018,208,076,188,254,169,001,1055
1190 DATA 141,065,003,076,142,192,169,006,0794
1200 DATA 141,032,208,141,033,208,169,000,0932
1210 DATA 141,018,208,169,005,141,022,208,0912
1220 DATA 076,049,234,173,065,003,240,055,0895
1230 DATA 162,000,189,193,007,157,192,007,0907
1240 DATA 232,224,039,208,245,160,000,177,1285
1250 DATA 251,201,255,208,013,173,060,003,1164
1260 DATA 133,251,173,061,003,133,252,076,1082
1270 DATA 197,192,141,231,007,165,251,024,1208
1280 DATA 105,001,133,251,165,252,105,000,1012
1290 DATA 133,252,169,007,141,064,003,169,0938
1300 DATA 000,141,065,003,169,240,141,018,0777
1310 DATA 208,076,188,254,-1
```

Utility Box

Madhu Surendranath – Parts 6, 7 and 8

Madhu Surendranath's simple scrolling messages for the 64 continued (there are 12 in all).

```
10 REM ************************
20 REM * UTILITY BOX - PART 6 *
30 REM *     (C) SEPT '88     *
40 REM *      WRITTEN BY      *
50 REM * MADHU   SURENDRANATH *
60 REM * 'THE   BOX  ROUTINE' *
70 REM ************************
80 REM YOU CAN DEFINE THE VARIABLES TO SUIT YOUR OWN PROGRAM
90 X=15  :  REM STARTING X CO-ORD
100 Y=7   :  REM STARTING Y CO-ORD
110 X1=10 :  REM SIZE OF X SIDE
120 Y1=10 :  REM SIZE OF Y SIDE
130 PRINT CHR$(147)
140 POKE 781,Y:POKE 782,X:SYS 65520
150 PRINT"@";:FOR A=1 TO X1-2
160 PRINT"C";:NEXT:PRINT","
170 FOR A=1 TO Y1-2
180 PRINT TAB(X) "B" TAB(X+X1-1) "B"
190 NEXT A
200 PRINT TAB(X) "-";:FOR A=1 TO X1-2
210 PRINT"C";:NEXT:PRINT"="
220 END
```

★ Program Submission Procedure ★

DO NOT submit any programme or routine that you do not either own or have proper authority to do so.

ALWAYS include your name, address and the date on all material and any disclosures. Do not forget to make it clear exactly which computer/s your programme or article is applicable to.

Include Kickstart or Workbench versions wherever they are pertinent.

Number all pages.

If you have to submit work which is hand-written then you must make sure it is printed clearly.

Never use stables. Use paperclips if necessary.

If possible save programs on disk twice and call the second file "BACKUP".

Remember to label all disks with your name and the title of the programme.

Always ensure that disks are well packaged. They should ideally be sent in a commercial disk mailer or at least packed between two pieces of hardboard or rigid plastic.

Please allow at least 8 weeks for acknowledgement as all programmes have to be thoroughly tested and made into a suitable format.

Enclose a self-addressed stamped envelope or package if you would like your programme to be returned.

★ Programming tips ★

Try to keep instructions within the programme itself at a sensible level. You can expand on them within the accompanying text if necessary.

TEST your programmes before submitting them or even better get a friend to test them for you.

```
10 REM ************************
20 REM * UTILITY BOX - PART 7 *
30 REM *      (C) SEPT '88     *
40 REM *       WRITTEN BY      *
50 REM * MADHU   SURENDRANATH *
60 REM * 'THE  FILLED    BOX' *
70 REM ************************
80 REM YOU CAN DEFINE THE VARIABLES TO SUIT YOUR OWN PROGRAM
90 X=15  :  REM STARTING X CO-ORD
100 Y=7   :  REM STARTING Y CO-ORD
110 X1=10 :  REM SIZE OF X SIDE
120 Y1=10 :  REM SIZE OF Y SIDE
130 A$="*":  REM CHAR FOR FILL
140 PRINT CHR$(147)
150 POKE 781,Y:POKE 782,X:SYS 65520
160 FOR A=1 TO X1
170 FOR B=1 TO Y1:PRINT A$;:NEXT B:PRINT:PRINT TAB(X);
180 NEXT A
```

```
10 REM ************************
20 REM * UTILITY BOX - PART 8 *
30 REM *      (C) SEPT '88     *
40 REM *       WRITTEN BY      *
50 REM * MADHU   SURENDRANATH *
60 REM * 'DEC-HEX  CONVERTER' *
70 REM ************************
80 HEX$="0123456789ABCDEF"
90 PRINT" ********************************"
110 PRINT" DECIMAL TO HEXADECIMAL CONVERTER"
120 PRINT" ********************************"
130 PRINT""
140 INPUT" DECIMAL NUMBER (0-65535)";J
150 IF J<0 OR J>65535 THEN 100
160 P1=INT(J/4096)
170 P2=INT((J-P1*4096)/256)
180 P3=INT((J-P1*4096-P2*256)/16)
190 P4=INT((J-P1*4096-P2*256-P3*16))
200 CX$=MID$(HEX$,P1+1,1)+MID$(HEX$,P2+1,1)+MID$(HEX$,P3+1,1)+MID$(HEX$
                                                          ,P4+1,1)
210 PRINT " DEC"J"= HEX $"CX$
220 CX$="":P1=0:P2=0:P3=0:P4=0
```

CLASSIFIED

Wanted. C64 software cassette/disk. Must be original and inexpensive. Please send list(s) to: G Molneux. 19 Torquay Parade, Hebburn, Tyne and Wear.

Help. Can anyone give me a dip switch setting for Canon A1210 Colour Printer to make compatible with Atari 800 and 850 interface? Phone: Arthur (091) 454 4 684.

Wanted: Broken C64 for spares. Will pay £40-£50. Tel: S. Keyte (0253) 723 735.

Help. Anyone have an instruction manual for 'Viza Write' (1983)? Please ring D. Wearner. (0733) 602 601.

Wanted. Pet 2001 programs, hand-book ROM ic's and accessories. Phone:– David Loveridge, (01) 422 0044

For sale. ATX50 50cc Motorbike, E Reg. Excellent condition, bargain at £310, or exchange for Amiga 500 with games etc, must be in good condition. Contact Carl on:– Bradford 634 092.

Complete Commodore 128 system including two disk drives, printer, modem, joysticks, disks, books, etc. £400 o.n.o. Call Mr.Rees (0438) 726

For sale. C128, 1541, MPS1000 Printer, 1901 colour monitor, desk, W.P., S.Sheet, and D-Base software £575 o.n.o. Tel. Hoddesdon 464-570.

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Norwegian C64 owner looking for contacts. Write to:– Eivind Sommersten, Loebergsun 9811 5032 Minde, Norway.

C64 user wishes to have U.K. or European pen pals. He is 21 years of age and is currently studying astronomy. Any age, male or female, all letters will be answered...Write to:– Sasha Novacic... Flat 3/17-19 Tullock St., Deer Park, Melbourne, Vic, Australia.

Amiga contacts wanted. Write to:– Ole Henrik Tueten Gamleug 12, 3190, Horten, Norway.

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For sale. Music expansion system for C64/128 inc. All hardware and software plus CAD Master, lightpen and few games cassette all £50. Call (01) 769 7375.

For sale. C64C Hollywood T.V. pack, bought in Jan '89, under guarantee. Paid £150, selling for £120. Tel. Mr.Hunt (03752) 5991.

C128 + 1570 disk drive, 1520 printer, sound sampler, £600 of software, disks, joystick and blank disks plus Busicalc worth £60, sell for £500... Phone Gabind (01) 514 3643.

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Sound FX kit, create quality sound effects for your own programs £10. Incl, P&P. Contact:– N.Higgins, 109 Edwards St., Denton, Manchester M34 3BS.

For sale. Amiga CBM501 memory expansion + clock, £100. Cumana external 1MB drive, £60. Datel Midi Master, £20. C64 Freeze Frame Mk3, £15. Trilogic Expert + ESM £15. Bruno Johnson, (01) 399-2063.

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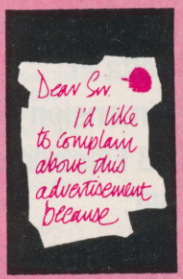

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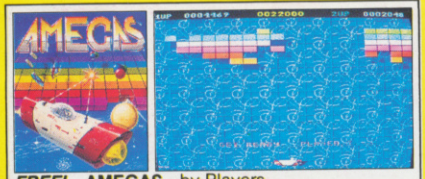

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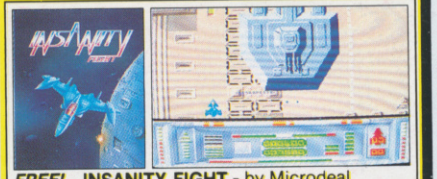

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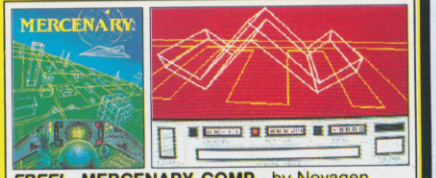

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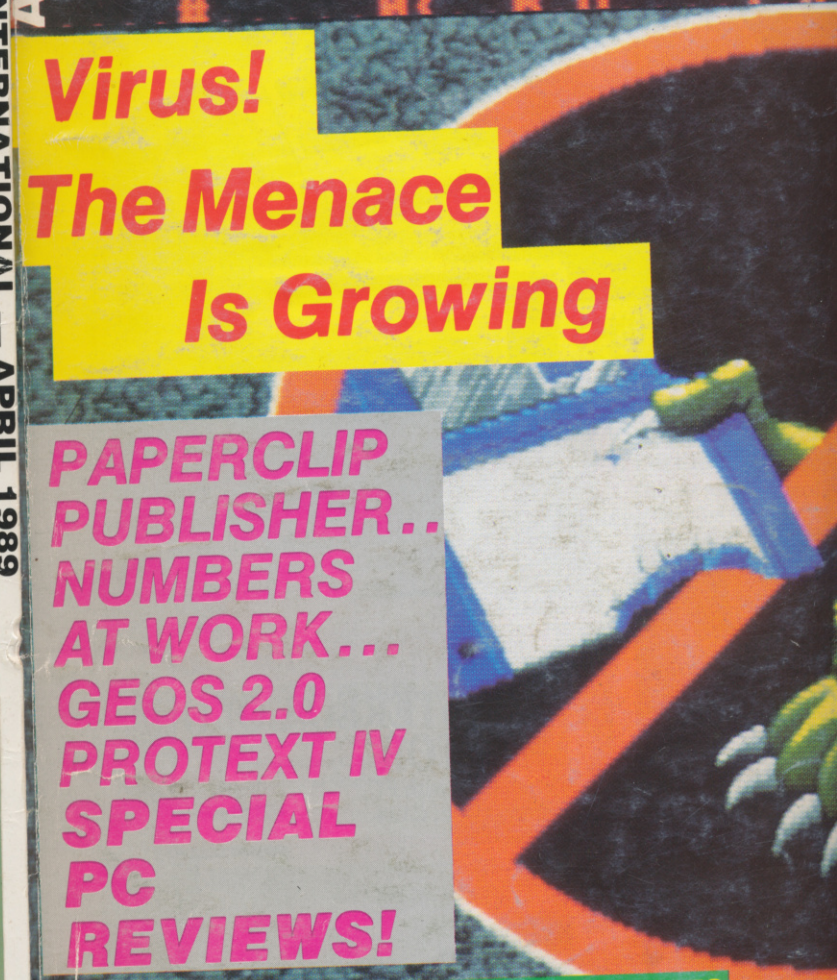

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